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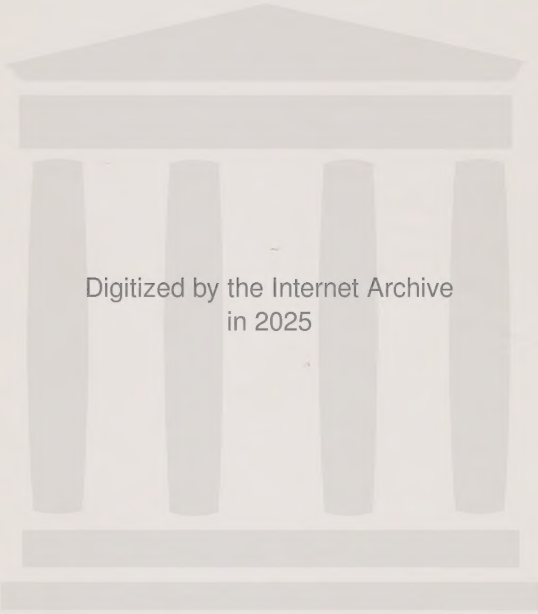
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PALISSY THE POTTER.

By the same Writer,

I.

HOW TO MAKE HOME UNHEALTHY.

A NEW AND CHEAP EDITION,

WITH A

COMMENT UPON RECENT SANITARY MEASURES.

II.

A DEFENCE OF IGNORANCE.

PALISSY THE POTTER.

THE LIFE

OF

BERNARD PALISSY, OF SAINTES,

HIS LABOURS AND DISCOVERIES IN ART AND SCIENCE;

WITH AN OUTLINE OF

HIS PHILOSOPHICAL DOCTRINES,

AND A TRANSLATION OF

ILLUSTRATIVE SELECTIONS FROM HIS WORKS.

BY HENRY MORLEY.

"Je n'ai point eu d'autre livre que le ciel et la terre, lequel est connu de tous,
et est donné à tous de connoître et lire ce beau livre."

PALISSY.

IN TWO VOLUMES.

VOL. I.

LONDON :

CHAPMAN AND HALL, 193, PICCADILLY.

1852.

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PREFACE.

IN Chapters II. to VI. of the first volume of this book I have feigned two or three simple incidents and dialogues, in order that so I might more easily describe the character of the experience that must have been acquired by Palissy during his early travels. Nothing else in these volumes is fictitious; and in the chapters above named the information given is in no case fanciful: every point has been selected, as nearly as possible, from contemporary writings, and the dialogues express opinions of the time as they were spoken by the men who held them.

So much preface is made necessary by the romantic character of many incidents in the life of a man who laboured three centuries ago in turbulent times,

Voyaging through strange seas of thought, alone.

In his own day he was a man obscurely great among the prominently little; but the world, as it grows, improves its estimate of greatness, and the name of Palissy perhaps will not remain obscure.

LONDON, *October*, 1852.

ERRATA.

On page 185, in the first volume, at the twelfth line, Leghorn is printed for Libourne. It is requested that the reader will be kind enough to make correction of this error with a pen.

VOL. I.—Page 26, last line, for *from*, read *to*; p. 38, l. 16, for *drive*, read *dive*; p. 64, l. 17, for 1649, read 1469; p. 65, l. 9, for *V.*, read *I.*; p. 102, l. 7, for *usually*, read *usual*; p. 175, l. 7, for *day*, read *days*; p. 180, l. 1, for *Saintonge*, read *Saintes*; p. 185, l. 12, for *Leghorn*, read *Libourne*; p. 203, l. 3, for *by*, read *from*; p. 231, l. 6, for *II.*, read *I.*; p. 273, l. 4, for *works*, read *work*; p. 282, l. 11, for *prosecuting*, read *persecuting*.

VOL. II.—Page 110, last line, for *passages*, read *passage*; p. 172, l. 7, for *tells*, read *tell*; p. 185, l. 26, for *Hieronoymus*, read *Hieronymus*.

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PALISSY THE POTTER.

CHAPTER I.

BIRTH, PARENTAGE, AND EARLY EDUCATION.

FOR the birth of Bernard Palissy we can assign no more precise date than the year 1509, with a concession that this may be wrong within a limit of six years on either side. The date assigned by his last editor is 1510.

Of the birthplace of Bernard Palissy we only know that it was somewhere in the diocese of Agen. The aforesaid editor does, indeed, undertake to be particular. He tells us that Palissy was born at Chapelle Biron, a poor hamlet near the small town of Biron, in Perigord.

The town of Biron lies so near the southern boundary of Perigord, upon the little river Lade, that to descend the Lade only so far as to Chapelle Biron, is to cross from Perigord into the Agenois. Chapelle Biron is placed about three-quarters of a mile over the border; but although politically situated in the diocese of Agen, it belongs, by virtue of its scenery, to Perigord.

Perigord is a province, in part hilly and mountainous, in part made up of barren plains. In the days of Palissy, it abounded more than it now does in forest tracts, containing many walnut-trees, and chestnuts in such great abundance that they formed the staple food of the poor natives. These chestnuts also aided in the fattening of herds of pigs, whose noses were at all times prompt to perceive where truffles were concealed under the light soil within the forest. The wealth of Perigord depended, at the time in which we are now interested, on its forests and its pigs; in an inferior degree, on oxen, upon vineyards, and the oil extracted from its nuts. Its truffles were then, as now, an appreciated luxury; and perhaps the notion of combining with these dainties in a pie the excellent pheasants which are fattened in the truffle-yielding woods, had already dawned upon men as the great idea which was hereafter to make Perigord illustrious.

Over the vast heaths, and through the woods, and by the numerous river-torrents which the mountains pour upon the province, walked a free-hearted, clever, lively race of men. Hard and energetic as their dialect was their war-loving character, and good recruits were yielded from their number to the many armies called for in that period of troubles. Many armies had been marching into and out of France, hither and thither, during the period preceding the birth of Palissy; moreover, since the consolidation of the monarchy, neglect had been suffered by

districts distant from the central power—by Perigord and its neighbours among the rest. Therefore, in the beginning of the sixteenth century traces of former cultivation were already beginning to be defaced, and the internal wealth of Perigord was rapidly decreasing. The life-blood of France, then in a diseased condition (as it very often is, causing the body of the country to be frequently disfigured by eruptions)—the life-blood then gathering about the head, caused that to throb in a distressing manner, while it left a chill at the extremities.

Through Chapelle Biron flows the river Lade, a little tributary to the Lot; the waters of the Lot flow into the Garonne. By these rivers the Agenois, the district submitted to the diocese of Agen, is made fertile. Physically, the Agenois differs only from its northern neighbour, Perigord, in having larger rivers, more vines, fewer hills, and a soil more uniformly generous. The barren tract about Chapelle Biron is not a characteristic of the Agenois, but, as we said before, of Perigord. If, therefore, it was in Chapelle Biron that Palissy was born, it would please the fanciful to show how well he had been fitted with a birthplace. The variety of scene, the combinations of fertility and barrenness, would make a scrap of Perigord poetically fit to be the birthplace of a man who lived through scenes of intense contrast; who was free-hearted, clever, lively as men are who play upon the heaths when they are children; who was grandly energetic, and if not delighting in a war with men, warred

against difficulties in the way of knowledge with a heroism that communicates even to the baldest records of his life the colour of romance.

Unluckily, we are unable to attach much credit to the theory which has deposited the birthplace of Palissy upon the skirts of Perigord. That he was native of the fertile Agenois, all writers, on the assurance of his contemporaries, will of course agree. By simple misconception, he has now and then been chronicled in dictionaries as a native of the town of Agen. Some hamlet was probably his birthplace; but the evidence in favour of Chapelle Biron is insufficient. It is no more, I believe, than this: that there is at Chapelle Biron a kiln, bearing the name of Palissy; and that a family with that name, supposed to be descended from the Potter, had for some time resided on the spot. Now we know with certainty that the father of Palissy could not have been a potter. Bernard himself tells us, that when he commenced his own experiments in pottery, he "had never seen earth baked;"* therefore his father's livelihood could not have been drawn out of a kiln. The existence of a Palissy family upon the spot may make it probable, that among the descendants of the Potter, who had many children, one settled at Chapelle Biron, following in a rude way the calling which had made his family-name famous in the History of Art; but it does not prove that Bernard was born at that place. Still, therefore, the

* In *L'Art de Terre*, which will be found translated under the title of "The Artist in Earth," at the end of this biography.

doubt must be allowed to hang about this portion of our subject. Of some of the grandest rivers which fertilise our world, the source has been for ages undiscovered,—of many, even the existence was for centuries unknown, except to the few dwellers by their banks.

Concerning the parentage of Bernard Palissy, we shall need but little shrewdness to arrive at a satisfactory amount of knowledge. The business to which he was educated was that of a glass-painter,* and worker generally in painted glass. Painted windows were formed both after the manner of mosaic-work (which had originated the invention), by the artistic combination of fragments of glass differently coloured, and also by the fixing upon sheet-glass of pigments laid on with a brush. Glass-making, and all the processes connected with the shaping and colouring of glass, belonged to the art of *Verrerie*, which was accounted in the days of Palissy, and long before and afterwards, an honourable occupation. Not honourable or worshipful in the vague sense employed by our own trading corporations, but literally an occupation which a nobleman might follow without loss of caste in the eyes of a punctilious community.

There were two or three such noble trades, and there was need of them. Penny-needing nobles swarmed formerly in France, as they do now in Spain or Austria.

* "I for a long time practised glass-painting, until I was assured that I could earn bread by labour on earth." This and other passages to the same effect occur in *L'Art de Terre*.

They were born to the right of talking big and eating little. They received a birthright, and paid for it with their potage. For the benefit of such men, or rather for the benefit of the order to which they belonged, and to prevent these ragged nobles from breaking down the platform which elevates men noble by their birth above men noble by their honesty, it was from early times thought prudent to honour one or two trades, by allowing noblemen to get their bread in them without a loss of dignity. Thus glass and glory came to be akin. I mean, of course, the glory which consists in a nobility by right of calfskin, as separated from and lifted over a nobility by right of soul. Some satirist, no doubt, suggested glass as a fit substance to be paired with glory of this kind, since both were blown after the fashion of a bubble, both could be seen through by a man with healthy eyes, and both required forbearance in the handling.

The infusion of nobility into the glass trade was so complete, that a belief arose, and has been to this day maintained in many places, that nobles only were permitted to engage in this employment; that they transmitted the trade to their children, and allowed no new business to be opened by a stranger, unless he produced his patents of nobility. By law this never was the fact; by custom it appears to have been the case, however, in a few districts, while in others glass-working was practised by men who had not the immunities of the noble-class, and certainly did not acquire them by virtue of their

occupation. The practice of *Verrerie* was in fact, as I before said, honourable; it might be practised by a noble without loss of caste, although it did not elevate men out of lower classes, otherwise than by associating them with what was thought to be a gentlemanly occupation.

Poor nobles, labouring for food as glass-workers, taught the trade to their sons; and as few who laboured would be willing to communicate their secrets to strangers, in whom they had not the interest of near relationship, it will be more especially true of glass-workers, as it was true very generally of most trades formerly, and is true rather generally now, that the occupation of the father comes to be the occupation of the son. Bernard Palissy we know to have been born poor, and to have received in his childhood no more than a peasant's education, except that he learned to draw* and paint on glass. We cannot err much in inferring, therefore, that his father was a glass-worker. Additional testimony is, however, furnished by the fact that Palissy, himself bred to *Verrerie*, apparently believes the art to be confined to nobles. He speaks at all times, not from books, but from experience. We may with certainty, perhaps, infer that he himself belonged to one of the innumerable families of petty nobles; and in that case, undoubtedly, the trade to which

* "God has gifted me with some knowledge of drawing."—*The Artist in Earth*. With Palissy's occupations from the first, drawing was associated, and it therefore has frequent mention in his works. From this passage we may suppose the taste to have been developed very early.

he was educated he acquired from the instructions of his father. Writing in later life, Palissy says:

“I beg you to consider awhile our glasses, which, through having been too common among men, have fallen to so vile a price, that the greater part of those who make them live more sordidly than Paris porters. The occupation is noble, and the men who work at it are nobles; but several who exercise that art as gentlemen, would gladly be plebeians, and possess wherewith to pay the taxes.”

Of these glass-workers, living more sordidly than Paris porters, we have accounts somewhat more recent than the time of Palissy, which do not indicate that they improved in their condition. The fine gentleman who travelled out of town, found, buried in the gloom of a wild forest, men whose sylvan solitude he celebrated in the cant phrase of his day. The simplicity, the candour, the remoteness from men and the propinquity to birds, enjoyed by the glass-workers in the great wood, were duly envied by the little gentleman, who nevertheless would have felt, as against his own person, the suspicion of simplicity to be an insult, and who did not venture to be candid even to himself. The gentleman to whom it was a glorious birthright to be idle, professed to admire the painful toil by which the rough men in the woods earned their exemption from the vapours; and never could the head under a wig forget the day when, for some festival, wild hair was combed, and rugged beards were shaven, by

the mirror of a pool in the recesses of the forest,—when, rudely accoutred and after an antique way, the knights of the glade made holiday, and bowed, like creatures out of Ariosto, at the feet of the wild beauties of the hamlet. The forest-chase of a wild dinner, and the red glow of the furnace after sunset upon moss and bark of trees, supplied the traveller with themes for a sickly, tepid eloquence, which leaves, after evaporation, a distinct trace of nothing but the fact that the glass-workers were miserably poor.

The furnaces and hamlets of these people were generally to be found in the recesses of a forest, and for the choice of a situation of this kind, good reasons existed. At a period when domestic buildings were much more combustible than they now are, the existence of glass-furnaces within a town was a decided source of risk. It was the banishment of glass-huts from the town itself, in the year 1291, which caused the establishment near Venice of the famous glass-works of Murano. Glass had been made in Gaul from the remote time of the elder Pliny, and the French did not neglect those measures of precaution which were thought requisite in other countries, and of which we find records at a later period in London also. Moreover, to the glass-workers themselves, when wood was their fuel, and the ashes of certain twigs, and of fern, were used as an ingredient in their manufacture, it was more convenient to build their workshops in the wood, where articles of which they were in daily want sur-

rounded them, and they were saved much loss of time, or much expense of carriage. For this reason, either scattered or singly, or collected with the dwellings of their owners into little woodland hamlets, the fires of the French glass-workers were lighted, in the days of Palissy, most frequently in the recesses of a forest.

Very reasonably, therefore, we may suppose that in a hamlet of the kind thus indicated Palissy was born ; that as a child he rolled upon the moss, and ripened with the chestnuts. Bits of coloured glass held a high place, no doubt, among his early toys, and some of his first lessons must have been those which taught him to distinguish between certain minerals, by the burning of which upon its surface, glass was coloured. Of the learning of his day, none was communicated to the child. The invention of printing had revived letters, and created with the power the desire to read. Italy excepted, little literature had been then added by Europe to the stores of history, philosophy, and poetry, bequeathed to us by ancient Greece and Rome. Whatever folly may attach in our own day to an exclusive study of the ancients, borrowed from our forefathers, to the neglect of better things, that folly is not to be ascribed to our forefathers themselves. Before they had the minds of Shakspeare, Goethe, Molière, Cervantes, Humboldt, and some thousand more, to study, it was in Greek and Latin that they had to seek the highest, and, with some obvious exceptions, the only literature which tended to the education of the world. The degree of

familiarity with Greek and Latin was therefore the test of education in the time of Palissy, and fairly so. It has continued until lately the test, even in our own day; because we idly followed an old rule, after the reason of it had for years departed.

Palissy afterwards, conscious of his innate strength, a little gloried in his want of Greek and Latin.* But he has not yet learnt, perhaps, that languages so named exist. For now he plays before us as a child, busy beside the forest-brook, or pondering upon the structure of a chestnut. The child, exchanging hours of reverie for madcap freaks and noisy pastimes, follows now the impulse of a mind created to be thoughtful, now the prompting of a lively laughter-loving temperament which works upon a body gifted with the fullest health. Knowing what fatigues and what privations swept over that body, and left it in possession of a vigorous old age, we guess how the rich blood could tinge its cheeks in the first days when it still had few pursuits more troublesome than butterflies to chase. Knowing that, throughout life to the last, and at a time when others often sink into mechanical existence, Bernard Palissy retained a quick eye, a clear head and a clean

* "I have had no other books than Heaven and Earth, which are open to all."—"And how could you contradict so wise a person, you who are nothing. We know that Cardan is a famous doctor, who has graduated at Toledo, and has composed many books in the Latin language; and you who have only the language of your mother, in what is it that you dare to contradict him?" These passages are from the treatise "On Stones;" and many more might be adduced.

heart—keen to detect truth, and fearless to maintain it, simple as a child, and playful as a child, for fourscore years,—we guess that in his boyhood he could romp with vigour when he was not in the mood for reverie.

But it was not all holiday to Bernard in his youth. Whether the child learnt that lesson, escaped seldom, which is taught within the walls of home, when lips which have been shaped a thousand times to kisses, model in clay the last smile that can only rot, we have no means of knowing. But the knowledge of the father, that is to say, the knowledge of a glass-painter, was transmitted to the son. Bernard learnt to read and write. The minerals employed in staining glass, and some few of their properties, had to be learned also, and they made up the child's first lesson in chemistry, a science which he afterwards—in Nature, not in books—pursued with ardour. An unconquerable spirit of inquiry, and a determined freedom in obeying its dictates, were inborn elements which would display their rule over the child's mind as clearly as they asserted afterwards their sway over the man. We use our fancies very little, if we picture the boy Bernard fingering his father's drugs, and asking questions concerning them, which, since his father cannot give sufficient answers, he walks out into the wood to think over, or ask again of Nature, in whose language (richer than the Greek or Latin) he was then beginning to be versed. Digging, to ascertain what minerals his native earth can yield, combining, roasting, and experimenting, we may fancy the

boy happy; and we cannot reasonably think that he omitted such amusements. Again, the business of the glass-painter requires that he should paint from certain patterns placed under the glass, or work according to a given plan, unless he should himself be able to originate designs. However the case may have been with Palissy the father, Palissy the son was not content to copy plans and drawings, without labouring on so that he might become himself an artist. The diligence with which young Bernard practised drawing during these first years, had a marked influence over his career in after-life. Nature supplied him with his copies: the trees of his own wood, adjacent rocks, the birds, the lizards, or his mother's face, were at the same time the most convenient and the most welcome objects to a draughtsman whose appointed volumes were the works of Nature, and whose chief delight was a minute observation of her ways.

Thus, then, it came to pass that Bernard Palissy, by the time he had grown lusty, and acquired a down upon his chin, was qualified not only to assist his father in the honourable trade of *Verrerie*, but was at the same time skilful to gratify the vanity or affection of his neighbours, by painting images of them, or of their houses, or whatever other things they loved, on sheets of paper. But the trade of glass-painting, which had borne good fruit not long before, was at that time falling rapidly into the yellow leaf.* The son, upon the boundaries of manhood,

* This accords with the history of *Verrerie*. Before turning his

with the hopes of life before him, capable of independent toil, was out of place as partner with his father, in a business that provided to a single household scanty sustenance. Nor, in the present instance, did so listless an arrangement suit the mind of a youth eager to see and learn.

So soon, therefore, as his limbs were duly knitted, and his mind was strengthened into capability of separate existence, Bernard Palissy, aged about eighteen years, shouldered a scanty wallet, scattered his farewells through the native hamlet, and marched out of it, to find his own position in the world.

mind some years afterwards to pottery, Palissy says (*Artist in Earth*): “ I recalled to mind several suggestions that some people had made to me in fun, when I was painting portraits. Then seeing that these were falling out of request in the country where I dwelt, and that glass-painting also was little patronised, I began to think”

CHAPTER II.

PALISSY OBTAINS SOME KNOWLEDGE OF THE WORLD.

WATCHFUL of lizards—a warm friend to trees—a studious traveller in stony places, which to his eyes were not barren,—contemplative, cheerful, simple-hearted,—Bernard Palissy passed out of the cover of his native wood. He loitered to examine nettles by the wayside, or to put some oddly-fashioned stone into his wallet. The ambition of two princes, whom it is customary to call great—Francis I. of France, and Charles V. of Spain—had led to the tumult of an idle conflict, in which one half of Europe was involved. Two hundred thousand lives destroyed, and the ruin of a million of families, left to these two great men, when their rivalry was over, no gain but repentance. So Bernard, stout and vigorous, entered a world in which there was provided ample field for military glory. Was he a coward, that he should lie down under a chestnut-tree in times like these, and plan a journey over France, during which he would obtain funds—or so he thought—

by practising his skill as painter in the noble houses and the towns? His mind dwelt most upon the study to be done during those years of wandering by the wayside—upon the woods, the rivers, and the mountains of all France to be spread out as a heritage before his intellect. He set his face towards the Pyrenees, and by the travel of a few days entered Gascony.

It was the year 1528;* and here and there upon the road were weary, footsore men, who had escaped to return as they were able from the war in Italy. One Gascon, who in that year returned among the rest, and who lived afterwards to be a noted soldier, was Blaise de Montluc. If we desire to know how coarse and jarring were the elements of that world in which the simple-minded Palissy desired to prosper, Blaise de Montluc is a communicative man, and we may draw from his experience a little knowledge.

Blaise de Montluc was, in accordance with the spirit of his day, a perfect soldier; he was nothing else. To him a day of peace brought more vexation than a year of trouble. Strife was his rest; and his religion—for in his military way he was very religious—was the notion that he had a God, whose business it was, if paid sufficient wages in the way of vows, to help him in the day

* Perhaps. The chronology is theoretical until about 1540; but it seemed better to assume in the narrative the dates which I thought probably correct, and afterwards to lay before the reader the conflicting evidence on which they have to be established.

of battle. At the age of seventy-five, compelled to superannuate himself, lame, as he says, in almost every limb with pike-wounds and the wounds of shot, the old man closed his life with the recital of his history. The face that bent over his paper was made ugly by a harquebuss, whose shot had left in it a running sore, apparently incurable. The stump of the man of battles having thus, at the age of seventy-five, superannuated itself, dictated or wrote the story of its past life, and has left complete those "Commentaries of Montluc" which Henri IV. styled "The Soldier's Bible."

Montluc was by eight or ten years older than Palissy, and had been at work in the great world, seeking joy and profit in its ferment, while Palissy yet dwelt as a child in the seclusion of the forest. Of the court politics Montluc knew little, Palissy much less; nor is it requisite that we should place ourselves at any distance from their point of view, in looking at the turmoils of society. The mean and wretched selfishness of kings in those old times concerns us only here in its effects. The royal motives, and the royal glories or disgraces, may be found by reference to any history of France. When Palissy sat down to gossip with the crippled soldier in his cottage, or trudged with him upon the road for company, so far as their two ways were one, what sort of narratives instructed him in the world's doings at that time and for the few preceding years? Montluc returned among the cripples, and what his tale would have been we know; therefore we need

feign nothing, but soberly relate Montluc's view of the world, which Palissy had come forth to encounter.*

Montluc was, in 1528, a young soldier, aged perhaps twenty-seven. His house was noble, but impoverished. Bred as a page in the house of the Duke Antoine de Lorraine, he had become, in the next place, archer of the duke's company, having M. de Bayard for his lieutenant. Rumour, however, brought him tidings of the noble deeds that formed the daily run of military life in Italy, and Montluc had a mania for laurels. He went, therefore, to Gascony, and obtained equipment from his father, with a little money and a Spanish horse, on which he galloped forth in search of fortune. He had not travelled a day's journey from his father's house before he met the Sieur de Castelnau, an old gentleman entitled by experience to give him copious information on Italian matters, and communicative as old gentlemen are apt to be. Montluc spurred on and crossed the mountains, hurrying to Milan. He was then seventeen, and had his career before him, as now at the same age Bernard Palissy is entering on his.

Two uncles by the mother's side, named Stillac, welcomed young Montluc; and one of these two uncles

* The *Commentaires de Montluc* give a minute picture of war as it was managed by France in the sixteenth century, but they are at the same time very long and very tedious to any one who does not care to read all the "did he's" and "did I's" of a garrulous old soldier. The narrative in the text consists of the facts told in his first pages by Montluc, reduced in scale very considerably.

serving M. de l'Escunt,* who was brother to M. de Lautrec, marshal of France, Blaise de Montluc was entered as an archer in his company. Among these common archers there were not a few born gentlemen. The French were not particularly fortunate, for they lost the duchy of Milan. Never mind that: we have here the smallest possible concern with gains and losses of that nature. The war on this occasion lasted twenty-two months, and young Blaise, who knew that it was necessary for a soldier to display as soon as possible his quality of stomach, fought so diligently that five horses were killed under him in ten days, besides that he was once made a prisoner and ransomed by his comrades. Montluc was in the battle of Bicoque, where he saw M. de Montmorenci, with whom afterwards, when constable of France, Palissy became acquainted, struggling on foot.

After the loss of Milan, Montluc returned to France as man-at-arms and archer in the army of Odet de Foix (Lautrec). The Spaniards soon formed a party for him, and Montluc's next day of pleasure was a battle at Saint Jean de Luz. In that battle, among others who were struck down was M. de la Faye of Saintonge, afterwards a friend to Palissy. The French had very much the worst of the entertainment at Saint Jean de Luz; they were routed, and would have suffered most severely from

* So Montluc calls Thomas de Foix, *Sieur de Lescun*, brother to Lautrec, and also to Françoise de Foix, Countess Chateaubriand, the king's mistress.

the Spanish cavalry, if Montluc had not, in the teeth of cautious counsel, inspired a hundred cross-bowmen on foot with readiness to follow him and check the fatal movement. These hundred men took cross-bows; for at that time (in the year 1523) there were no harquebusses in the nation.* Six men with harquebusses, Gascons, had however only a few days before deserted from the enemy, and coming to Saint Jean de Luz, had found Montluc on guard at the town gate, who impounded

* Cannons, the first artillery, were invented about the year 1336. They were, at first, bars of iron hooped together, or plates of iron made into a machine with hides; great stones were the first cannon-balls, and the first cannons usually burst and killed their friends after the third time of firing. As they were also very heavy and cumbrous, the ancient machines of war were for a century considered preferable. With time, however, came improvement; in the course of a century cannons were better made, and cured in a great measure of their vice of bursting. But they were very large, and the loading, firing, and after-cleansing, formed so tedious a business, that with diligence it was considered brisk to fire off the same cannon four times in a day. They were used only against towns, and it was thought specially inhuman when the English in France first turned them against men. When the manufacture had improved, those barbarous old names, of which Mons Meg is a sample, were set aside, and cannons had names according to their size, borrowed from birds of prey. The smallest cannon then discharged a two-pound shot. The step from cannon towards musketry was made by the harquebuss, first used in Germany. In 1471, it was imported into England in the hands of three hundred Flemings. The Spaniards also used it early. Its introduction into France was so late, that there were in 1667 only four harquebusses to each company of the French army. The harquebusses mentioned in the text were very heavy, carried generally by attendants, and supported upon rests when fired. The cumbrousness of the apparatus, the way in which the ammunition was disposed, and the clumsiness of the matchlock, made the process of reloading very tedious. The balls fired were never lighter than twelve to the pound.

them for his own service. The cavalry was charging down on the small band of foot which interposed itself between the Spaniards and the routed French:—Montluc, when they were very close, ordered his archers to aim at the horses' heads, and fifty horses fell. The perilous retreat of Montluc's band, cut off from their friends and hunted by their enemy, was a notable affair. The young soldier performed his service and brought back his men, four only missing. Lautrec, who was a reserved man, too rarely given to praise, rewarded young Montluc with marked expressions of his favour.

The camp of the Spaniards having retired, part of Lautrec's army was disbanded, and Montluc, then twenty years of age, was put over the company of his late captain. The Spaniards, altering their minds, advanced, and took Fontarabia. As for Montluc, his duty making him a dweller in stone walls, to which life he was as hostile as the savages of old, he declined the ignoble life, and travelled off to Italy again, where the revolt of M. de Bourbon had lighted up the blaze of a more thoroughly delightful hell. Thither Montluc went, since he could get no regular engagement, as a volunteer, accompanied by five or six young blades whom he had picked up on his road; these all served under Captain Castille de Navarre. So Montluc was at the siege of Pavia, and at the battle on St. Matthew's-day. It was quite a pity that King Francis, just before this battle, had dismissed, through motives of economy, three thousand Swiss under their colonel, who was

called commonly "le Grand Diant." The aid of le Grand Diant ought not to be dispensed with in such undertakings as those which formed, three centuries ago, the foreign policy of European states. The result of the battle was the capture of King Francis, and with him, among other gentlemen, of some whose names will occur elsewhere in these pages—M. de Montmorenci, M. de Nevers, and M. de Brion. Montluc, also a prisoner, aged twenty-three, was ordered, with all others of his kind who were too poor to provide ransom, to quit the camp and find his way to France.

How King Francis went as prisoner to Madrid, what he did there, and how he came to France again, are questions in which we are not concerned—except to state, that when he did get home, Montluc was soon emancipated from the bonds of peace. Being required to raise a troop of foot in Gascony, he marched at the head of eight hundred men for Italy, having among his men four or five hundred harquebusses, though there were still scarcely any of those weapons used in France. The old man, when memoir-writing, wipes his ulcerated face with the stump of a hand, and abuses harquebusses heartily. The young man, having got to Italy, was soon shot in the leg; and being lamed for a season, was not at the siege of Pavia. He followed the camp on a litter. His Gascons had been divided, and himself left commander of four hundred. Being recovered from his lameness, on a certain occasion the French came before a small town named Capistrano,

situated on a mountain. Two breaches had been made in its walls, each of them only large enough for the admission of a single man. Montluc was ordered with his troop to force the town.

“This was a year ago,” Montluc might have said, if he had been the soldier whom chance brought to sit upon a hill-side, and pour out his tale of war into the ear of Palissy. Assume that it was he, and that the young Bernard, with his eye intent upon the movements in a bird’s-nest, endeavoured to keep out the images from which his soul recoiled. “This was a year ago. Count Pedro of Navarre bade us to storm the town. I had long panted for the day when I might be the first to enter by a breach. The time was come. I shouted to my men to follow closely, and rushed through the wall, with a coat of mail upon my body, such as the Germans wear, a sword in hand, a buckler on my left arm, and a morion on my head. The breach made entry into a house; and the enemy had torn up a number of the planks just overhead, and piled a mass of stones upon the upper floor. I leapt in quickly; but, as my lieutenant followed, the stones were shot down, hurting some men, and partly closing up the entrance. None could follow; but I did not notice that, as I ran on to the door leading to the street. That was defended by the enemy; and while I fought them, the men from above fired down upon me through the rift in the ceiling with their harquebusses. A shot pierced my buckler, and cracked my arm; the next shot splintered the bone at my shoulder,

on the same side. I dropped my buckler, and my arm seemed to be gone; I could not feel it. Then, seeing that I was alone, I fought my way back to the breach; and no sooner had I put my feet outside, than my men, who were there, seized them to assist in extricating me. They dragged me out with such good-will, that I was shot down to the bottom of the town trench, where I fell upon the ruined stones out of the wall, and broke my lame arm in two other places. Then, when I recovered from my swoon, and saw my men about me, I reproached them; and my lieutenant said he would go through the breach, or die. Ladders were got and tied together. My men formed two parties. Both breaches were assailed; and when one was taken, I bade my lieutenant, La Bastide, take good heed to prevent, as much as possible, the girls and women from being violated; because I had made a vow to our Lady of Loretto, that I would spare them on the first occasion; for which reason I expected Divine aid. Fifteen or twenty were brought to me, but all the rest were lost. My men could not be restrained; and out of love to me, and for the pain I suffered, they left not even a child alive. They then set fire to the town; and although the bishop of the district pleaded to M. de Lautrec, they would not rest till it was all reduced to ashes.

“Then M. de Lautrec sent two surgeons, Master Alême and Master George, to see to me. They said my arm must be cut off. But there was a young surgeon, who had served M. de Bourbon, who was my prisoner, and

whom I had about me. He advised me by no means to let that be done. M. de Lautrec commanded me to have my arm cut off, and promised to care for my fortunes. The surgeons came with their tools, and I would have submitted, but the young surgeon, standing behind my bed, continually urged me to refuse. So I refused. The surgeons went and told M. de Lautrec, who said he had just been thinking that it was best such matters should be left to God; and bade them examine my prisoner, to see whether he was versed in surgery, and if so, to commit me to his care. He bore examination well, and thereafter I lay on my back for two months and a half, in a house at Termes di Bressi, where, to ensure my being cared for, two chief citizens and the brother of my host were taken as hostages, with a promise that they should be hung if I was not made comfortable. Certainly it was not their fault that, from lying on my back so long, the flesh all rotted from my backbone.

“ Nevertheless, for my comfort, Count Pedro de Navarre assigned to me a handsome portion of the enemy’s land, which had been confiscated. I had the Tower de la Nuncide, the first barony of Naples, with twelve hundred ducats of income. A notable prize that would have been, if we had held our ground in Italy. They were endeavouring to subdue Naples by famine, but our galleys failed us, and the sea was open to the Neapolitans. Then came the Prince of Navarre, and from the time of his landing all good-luck deserted us. By that time, I was able to get

about with my arm in a sling, and do some service with my men. By chance I saw a body of Italians stealing from the town-gate, to surprise the prince when he was disembarking. I succeeded in conveying warning, and a vessel coasted on to overlook the road and act on my intelligence; but the men in the vessel no sooner caught sight of my troop of harquebuss men, than they took for granted we were enemies, and opened fire upon us with their cannon. Two men were shôt down close beside me. Of one man whose head was split open, the brains were dashed into my face.

“To save ourselves from our friends, we took shelter in a trench, and presently the enemy defiled along the road before us. We fired upon them, and effected a diversion. The Prince of Navarre, having landed, scampered for his life to reach the camp, whither I and my men retreated, and, entrenched behind the wall on each side of the camp-gate, we defended the position for a terrible half-hour. At last the enemy retired; and I, who had been able only to instruct my men, too weak for fighting, was leaning exhausted against a bank, when I heard the high officers talking as they pointed to me, and saying that they owed much to the young man with the crippled arm, and those who had come newly to the camp inquired about me. That was my reward.

“But the Prince de Navarre brought us bad luck. Misfortune followed on misfortune. We lost our best men, M. de Lautrec among others; and I travelled home from

Gascony, for the most part of the way on foot; so did the other soldiers who escaped, but they were very few. The journey was a weary one. I had about me more than thirty ells of taffeta, by way of bandage to my arm, which was supported in a sling, and bound fast to my side. All my companions and friends were dead, except M. de Monpezat and poor Don Pedro, our colonel, who was taken prisoner; and he, I learn, has lately been beheaded. So I am come home to my father's house in Gascony, which in these days is poor enough; and when my arm is healed, as I fear it will not be for the next three years, I shall set out for the camp, and so begin the world again."

So might Montluc have spoken in the year 1528; that was the complexion of a soldier's tale, when Palissy came out into the striving world. And to such tales must have been added testimony to the vices of the camp. A war for liberty, or the defence of human rights against aggression, may invoke high thoughts and virtuous emotion; but the wars were base of which we now speak, and they fearfully debased the men who were engaged in them. From King Francis, who after a triumph insolently consented to ordain thanksgiving to God, "because he had proved himself a proper Frenchman," down to the meanest soldier, blasphemy was common. Gambling ruined many officers and men. Drunkenness begetting insolence, caused captains to cut and hack the bodies of their men not rarely, and their cruelty made the assassination of an officer by his own men to be no strange

event. Montluc, in the course of his experience, had with his own eyes seen four commanders cut down from behind by their own troops.

Shocked by such narratives, young Bernard would proceed, out of the simplicity of his own mind, to make himself contemptible to his companion, by commenting upon them unreservedly as they walked on, and testing them, according to the humour born with him, by principles of reason. Soft fledgling he would seem to the bold man of war, who little knew what battles were to be fought, what heroism infinitely higher than his own was to be hereafter manifested by the quiet youth, whose company delayed him on the way. For the young Palissy found many stones to crack, and many weeds to fish out of the ditches; and whatever unaccustomed thing arrested his attention, he was obstinate in stopping to examine.

CHAPTER III.

MORE KNOWLEDGE OF THE WORLD.

IT was well for Bernard that he had not to depend on glass-painting alone for a subsistence. Work at a church-window was not to be found in every town; and although there were few noble houses at that time in France which were not decorated with a rather free display of coloured glass, yet, unluckily, the noble tenants were beginning to discover that their painted windows were domestic miseries. They had been, of late years, greatly in fashion. The works of Jean de Bruges, Michael Angelo, Raphael, and Giulio Romano, had been assiduously translated into glass, for satisfaction to the luxury of wealthy men. Even in our own days, any mania for painted windows in a dwelling-house would have within itself the elements of speedy cure; what it implied, however, in the sixteenth century will soon be seen. Palissy, therefore, setting out into the world as glass-painter in a year that was on the

wrong side of the climax in the public taste, found it not very easy to exchange his painted glass for bread.

The young wanderer parted from a battered soldier at a hovel-door,* and sped away from the wife's cry of pleasure which arose in his companion's home. Bernard had not a home, and wanted none. He would pause wherever he found work; and when work was exhausted in one spot, would wander on much freer than a bird, whose freedom is a fiction altogether. So the youth parted from his companion, and leapt a ditch, to find the shortest road across the fields to a large country-mansion which he had perceived among the distant trees.

By a brook-side, sheltered among nut-boughs from the mid-day sun, there was a peasant resting from the plough, eating dried chestnuts for his dinner, and drinking water from the stream. Bernard was tempted by the shade, and sat beside the labourer, to talk with him on equal terms. Probably, not even a herald would have thought that he had caste to lose by doing so. It was the abbot, said the countryman, who lived in yonder house—a courtier from Paris, who belonged to the army, and raised troops among them sometimes; and as he was their abbot also,

* Of the wanderings of Palissy, which occupied the ten or twelve years before his settlement in Xaintes, our knowledge is only general. We know that he travelled over France, and how he earned his living on the road. We know, also, his tastes and habits. These are correctly represented in the text. The minute details chosen to illustrate what Bernard must certainly have seen and heard during his travels, when they take the form of incidents, are not to be received as true in the letter, but in the spirit.

he raised tithes. He was abbot of other places; and he seemed, moreover, to be concerned, on that domain, with the collection of taxes for the government. "A great deal of our harvest and our money goes to the great house: they are rich people there," the labourer said, in no tone of complaint, as he finished his last mouthful of dried chestnuts. Palissy then, thoughtful of his business, ascertained that there were painted windows in the great house, some of which his friend, when he took tithes, had seen. There was painted on one window a man upon a tower, looking at the crucifixion through a telescope;* another was made up of patterns only; and the great window in the hall, where tithes and taxes were received, was painted with Saint Martin's charity.

With a cheerful farewell, Bernard hastened on; but there was a shell by the wayside which, through all his haste, arrested his attention. Stopping to look at that, he became interested in the movements of its tenant, and spent, accordingly, ten minutes by the side of a green ditch, to see how daintily a snail could eat its dinner. Then the wood, through which the road passed, was so full of sights and sounds, that Bernard was tempted to sit down upon the stump of a felled tree, and listen to the birds, as well as woodcutters would let him. Incessant striking, and the frequent crash of fallen trees, soon

* The man being St. Denis. Mrs. Jameson, in her "Sacred and Legendary Art," tells us that she saw this subject for a window-picture in an old French print.

aroused in the young lover of the woods a sense of pain. That closed his reverie, and set his eyes again loose on the outer world. There was a traveller who led his horse over the rugged path and round the fallen timber—a man in grave attire, with a sedate face and abundant grey hair in his beard. The stranger had passed without seeing the quiet Bernard, and was proceeding on the road to the great house. The impulse of good-fellowship belonging naturally to a lively peasant race, brought the youth quickly to the stranger's side, and youth and age found little difficulty in establishing a proper road-acquaintance.

The young Bernard had soon frankly told his little tale, and found in return that his new companion was a man of business, wealthy in his trade, a draper,* and that now, in the course of a long journey, he was about to call at the great house, as Palissy himself proposed to call, in his own humble way, in search of patronage. Those people should have patronage to give, the Draper thought, for they had taken plenty; and they should have money to spend out of the proceeds of their wood-cutting. Bernard thought men could not prosper on the price of blood—of trees:

* This Draper comes out of the *Livre des Marchands*, by Regnier de la Planche, one of the most delightful books dust ever covered. Chronicles like that of Montluc are much too prolix to be quoted verbally, but there is vigour with terseness in the *Livre des Marchands*, of which I have been glad to take advantage. Every speech here made by the Draper is an extract picked out of the Draper's chapter in the *Livre des Marchands*. The Draper, therefore, in these pages, speaks really what was put into a draper's mouth by one who wrote while Palissy was living.

fair wood-cutting was just and honest, but to sweep away a forest for the lust of gain! "Wait till you see more of France," the Draper said; "this Gascony is lightly burdened. Monseigneur the Cardinal de Guise—you cannot walk far without stumbling on a benefice of his. He sets a bright example to the Church. There was no need of it. Round Paris, where I live, the woods are swept away so thoroughly that the increased cost of firewood is a tax upon the poor of one-sixth of their income. My Lord Cardinal de Guise sits like an owl upon his perch, to watch for the leanest mouse of benefice. Is a living vacant, though its value be a footman's pay, it is solicited for my lord-cardinal. The rich incumbents are watched greedily, or hurried out of their possessions prematurely, forced to share their livings, or bought out of them if there be wood enough to fell for payment of the purchase-money. So Monseigneur the Cardinal has gathered livings; and when he has despoiled them of their woods they have been thrown to the first comer of his varlets or his protonotaries, as we fling bones to dogs when we have eaten all the meat from them, and sucked the marrow."

"Are not the treasures of the Church in heaven?" inquired Palissy, with simple earnestness. "If what you say be true, can men look every day upon the scandal, and not seek to bring back those offenders to a sense of justice?"

"Men do not see their souls," the Draper answered. "Oh, if the cloak worn by my lord the cardinal had in it

as many pieces of different colours as he has benefices and different orders and institutions, how ugly and disgraceful he would think his garments! The cardinal loves better that the ugliness and infamy should be his own, and be unseen, than that his cloak should be accused of it in public. Do you know, my friend, how many beggars ask for alms now in the country, who used formerly to live in peace, and pay rents? The poor man, who used to keep two or three cows, pigs, or sheep, feeding them in the public woods, and feeding his own household with their increase, has his pasture-ground robbed from him. The poor among us have no more fat cattle, no more wool to sell, no more manure to put upon their plots of ground. The woods are felled by peers and abbots, and the ground of the poor man is rented to the plough at a high rate, and with a cruel claim for entrance-money.

“I ask,” said the Draper, warming into indignation, “to whom do these waste lands belong?—to the people or to the king? If they belong to the people, then it was cruelty (I say no worse) to rob them of their heritage. But if they were the king’s, they were part of the domain pertaining to his crown; to other rights of his they could not appertain. If they belong, then, to the crown domain, alas! gentlemen-peers of France, where is the oath you made, and swore so solemnly on the altar at the consecration and the crowning of the king, to preserve and maintain his domains?—where is that which you swore should not be alienated? If you do not fear God by

whom you swore, nor love the king to whom your vow was pledged, at least say why you have abandoned fear of shame, and the reproach of men. It will descend upon your tombs!"*

"You have seen much of France, and know these things?" asked Bernard, in a timid voice, though he looked frankly into the trader's sunburnt face. If these things were so, he thought, the peace of nature is not in the hearts of men. They walked on through a wide clearance in the wood; and to the mind of Palissy, the fallen bodies of the trees which strewed the ground were a sight far more pitiful than to Montluc's eyes would have been the human bodies on a field of battle. "You have seen much of France, and know these things?"

"I have seen much of France and know these men," the trader said. "My business has carried me abroad, especially to Germany. I was long in Lorraine; I have seen France; and as for the affairs of my own town, I have studied them. Our state of trade gives us a great intercourse with people of all classes. No others have equal means of residence and traffic among foreigners; can win so well the attachment of foreign kings and princes; know

* Jean de Guise, Cardinal of Lorraine from the age of twenty, who made a thousand beggars by his lust of wealth, was ostentatious in his charitable use of riches. There is an anecdote of this :—A blind beggar having sued to him, in the streets of Rome, on one occasion, and received a handsome sum, exclaimed, "You are Christ, or the Cardinal of Lorraine !"

the news of foreign courts, their enterprises and their tempers. Our experience causes us to be sought even by statesmen, and our traffic is a noble occupation, for we succour our own land with the blessings which were given to another. That way our gold and silver comes, we make none poor for the increase of our houses. What man is there who acquires wealth better or more honourably than we traders do, whose profit comes through the convenience of all, by our own industry and labour? The soldier risks his life; we trade through war and peril, risking not only life but also wealth. You are a noble glass-worker." Palissy laughed. "Yes, they call yours a noble trade, but trade is noble in itself."

The Draper, by the quiet company of a submissive listener, had been beguiled into that stage of loquacity which brings a man to dwell upon himself. The simple faith with which Bernard appeared to use his eyes and ears, had destroyed for the present in his grave companion the dread of ridicule, and that is one of the chief penalties by which men are deterred from revelations of their own affairs.

"Trade in itself is noble," said the Draper. "The wisest men, and the men most celebrated for their virtue, have been traders. Thales, the first of the Seven Sages, was a trader; Solon, second founder of Athens, was a trader; Hyperates, the mathematician, was a trader. The renowned Plato, called, for the excellence of his wisdom, the Divine, paid the cost of his travelling to Egypt

by the oil he sold there. In our own day, we have a Kerver, a Merlin, a De Pleurs, honourable traders—there are my excellent friends, Nicolas Bourgeois, Jean Messié, Henry l'Avocat, Jean Aubery, Nicolas Hac, ——”

“I do not understand you now,” said Bernard. “I never heard of Nicolas Hac or Plato.”

“Ah!” said the Draper, “you are a wild bird from the forest, and can only pipe as you were taught by nature. Never shrink before a bit of Latin. Look more at the man than at his habit; substance rather than words. Moreover, I am not a lettered man to make you a harangue; I was not formed for it in my youth. At ten years old I was sent to college by my father. All the science of that time lay in making what we used to call *carmens* and Latin verses. I made good ones, so my master said; and Heaven knows what poets my masters were. Even my father was pleased with my verses, though he understood them no more than I suppose you can understand high Dutch. At fifteen, the poet was brought home to the shop; for the good man always had intended that I should pursue his way of life. Then all that I had learnt with pains and trouble in five years, I forgot over diversion in one month. My verses returned into the earth out of which they sprang; for they were not current in business. So I spent five years in learning what I was not to remember.

“But since then, the goodness of God has been displayed by the hand of our King Francis, the first of his name, who draws, as from a tomb, sciences, arts, letters,

and good-discipline; and by the aid of an Amiot, a Jacques Colin,* and many others, the tools of wisdom are made sharp in our own mother-tongue; so that there is no artisan who may not in a few hours become wise, if he will use his leisure. Our shops may be our schools."

"Then," exclaimed Bernard, "I should wish the world to be my shop. I do not know how long it may require to learn all that men know, and how much more time it may need to unlearn their mistakes in knowledge. I feel that earth and air are full of mysteries and wonders of the sublime wisdom of God."

"My dear young friend," said the Draper, "you will find all these things written in books. With a book, we travel for nothing throughout all the regions of the world; we mount with faith to heaven, and descend with security into the abysses; we drive into the whirlpools of the sea, plunge into the midst of battles, capture towns, engage with brigands; and do anything, in short, without lifting a foot. That which long age, hard toil, and heavy experience, formerly brought to a man only at the hour of death, our children (so to speak) may suck from the teats of their mothers and their nurses."

"Explain this rock to me," said Palissy; "what is it, and how came it here?"

The Draper thought that was a foolish question. He

* Amiot translated Plutarch. Colin, secretary to Francis I., translated parts of Homer and Ovid. King Francis was styled "Father of Letters."

saw it was stone, and it was there because it was placed there in the beginning. But if he desired to hear nature reasoned upon, he would find in the books a high philosophy.

“I will inquire,” said Bernard. “Before I set out on my travels, I had planned to gain admission, where I could, into the workshops of the chemists, and to be taught by conversation with the students.”

Conversation with the Draper was here stopped by the arrival of the travellers before the stagnant moat, which coiled like a green snake about the mansion. Chamber-windows opened over it, and sleepers breathed its exhalations. Within the circle of the moat rose an unwieldy mass of scattered towers, round and square, connected, without any reference to symmetry, by massive walls. The thickness of the walls was visible in the deep setting of their eyes, their little windows and large windows, nearly all of which wanted the brightness proper to clear glass, and had that dull fishy look peculiar to painted windows seen from the outside.

Both applicants for favour were admitted to the lady of the house, and were led into her presence over cheerless floors, through thick walls and massive doorways, along passages but dimly lighted. Men were not then distant from the day when right hands—weapon-hands—were grasped ungauntleted, in sign of friendship and assurance that the friendship was sincere; we have degenerated, as the phrase runs, into a punctilious pulling-off of gloves.

Architecture, also, had not yet escaped the influence of monkish tutelage; and a nobleman's mansion, whether his town-house, or his country-house, was some such building as the one through which Palissy was groping with his friend the Draper. They consisted of strong towers, with high-roofed halls connecting them, never symmetrical in town, and in the country, interspersed with stables and such rustic offices, including also a walled garden. Where the country-houses were erected on comparatively level ground, it was thought prudent usually to surround them with a moat; but many were erected upon rocks, or in positions naturally fortified.

The effect of painted glass upon the halls and chambers of homes so constructed, was to fill them with an aggravated gloom. The loss of sunlight was unwholesome, but that was not by any means the only evil which experience discovered. Light sashes, and well-fitting window-frames, were not, in the days of which we speak, a source of household comfort. Household discomfort, on the contrary, was caused by the flapping, in any high wind, of the windows that had hinges, and the destruction of their panes of glass. Breakage of painted glass being expensive, painted windows were in most cases fixed into the wall—not made to open, and excluded, therefore, air as well as light. When Bernard and his friend appeared before the lady of the house, the Draper was received with honour, and rewarded with commissions; the glass-painter was welcomed with a cold politeness, and desired to put a new cheek in Saint

Martin's face, which her son Raoulin had damaged with an arrow, but to do it cheaply, for the windows ate the meat out of her cupboard.

Then Bernard went into the large hall where the window was, and found there nothing needed but a small pane, lozenge-shaped, suffused with colour. While he was preparing this, young Raoulin, who broke the window, busily overlooked the mystery of mending, and blew with good-will at the fire which was to burn the pigment on the piece of glass. Palissy had a proper sense of business, and enough knowledge of the maternal mystery in nature to suggest to him that it would be wise quietly to sketch the child, and suffer it to show the picture to its mother.

The result of this experiment was very satisfactory. So Bernard left the massive country-house, and took with him the good proof of metallic testimonials that he was competent to earn his living.

CHAPTER IV.

PALISSY STUDIES THE PHILOSOPHERS.

RADIANT in the sunny atmosphere which glows about our southern mountain-chain, the young Bernard rested on the summit of a small spur of the Pyrenees. Very few snow-peaks were in sight, for under that warm sky the mountain snows are held more than a thousand feet above their Alpine limits. Brushwood—not lichen—tinted the rocks, which Palissy had climbed by aid of the luxuriant box that grew out of their crevices. Vast forests of oak, and beech, and fir, rose high upon the mountain-steeps; a brawling river, with the tint of beryl, hurried down by an adjoining cliff, and glittered far below, among the fresh green of the watered meadows in the valley. There were forests here to make the palms of all the abbots itch, mountain-peaks cut their outline out against the deep blue of the sky, and here and there sparkled a tiny cap of so much snow as gave variety and point to the rich colours of the landscape. Palissy was reading in a book:

. . . “Before the mountains were brought forth, or

ever Thou hadst formed the earth and the world, even from everlasting to everlasting, thou art God."

The simple-hearted youth felt the divine when he looked out on Nature. The outlook over a grand space had wakened aspirations in his heart: every young heart, that is warm and true, throbs with an instinct of expansion, when the blood is quickened with a sense of space. But Bernard had no consciousness of greatness in himself. He was great; "born," as a famous pupil in his own school* said of him long afterwards—"born to the greatest things;" or in the language of a yet more famous student† in that school, uttered when Palissy survived but as a name to few, he lived to prove himself "so great a naturalist as Nature only can produce."

But his greatness was for time to prove, for others to acknowledge. To his own heart, the youth who sat among the Pyrenees, with his dark hair falling free in forest fashion, clipped for the convenience of no steel cap, was conscious only of an intense love of Nature, and of earnest curiosity for truth. Perplexed among the quarrels of the world upon religious doctrines, his philosophy had taught him to apply his own mind simply to the object of dispute. Therefore he studied in the Bible.‡ Free from all mists of passion, a strong instinctive sense of the unjust or the

* Haller.

† Buffon.

‡ The first translation of the Scriptures into French was made by Guiars des Moulins, a canon, in 1294, and printed in 1498. Raoul de Prèsles, and also some anonymous scholars, had published other versions.

unlikely, led him to put to a strict test all his experience in human morals and philosophy. He heard strange closet-doctrines about Nature, which he thought unfounded; therefore he grew, yearly, more assiduous in studying the rocks, and woods, and fields. Scripture and Nature made a harmony together, as delightful as the harmony of colours between heaven and earth, which had brought tears up to the eyes of the young painter as he looked abroad over the valleys of the Pyrenees.

Want of the necessary knowledge renders it impossible for us to follow with exact steps the path of Palissy, during the nine or ten years of wandering which followed his first departure out of home into the world. It was to him a time of education. He traversed France from the Pyrenees to the sea of Flanders and the Netherlands; he gathered experience in Brittany and by the Rhine. He visited Lower Germany, the Ardennes, Luxembourg, the duchy of Cleves, and the Brisgau. He spent time in his native district of the Agenois and in the Bourdelois. At Tarbes, the capital of Bigorre, he dwelt some years, and remained long in sundry other towns.* During these wanderings, he lived by his painting chiefly. His skill in glass-painting probably caused him to dwell, now and then, for a long period in some town where a church window, or an abbey window, was in progress; and his skill in

* This is the summary of the travels of Palissy, given by M. Faujas de St. Fond in the 4to. edition of the works of Palissy, 1777. All passages from the works bearing on the subject will be found collected at the end of this biography.

portrait-painting may have brought him, in some towns, an amount of patronage which made it prudent for him to remain, while there was anything to reap, upon the harvest-ground. Another means of livelihood consisted in his knowledge of geometry, and manual skill in the employment of a rule and compass. These instruments had come first to his hand as necessary in copying or inventing patterns for the painted windows; but Palissy never stood still in any branch of knowledge; his eagerness to push attainments constantly to higher ground, compelled him forward with the despotism of a passion. He became, then, as well acquainted as his means allowed with the geometry of his own day, and sought aid therein, as he could, from books. This knowledge made him capable of measuring and planning sites for houses and gardens, of making for its owners maps of landed property. These talents yielded no return to Palissy of more cash than sufficed for his subsistence; but they, doubtless, did enable him to travel without any sense of suffering from want, and they enabled him to spend such little sums of money as occasionally might procure for him the means of adding to his knowledge.

For his bread-earning talents, at that time, Palissy had not a great respect. "They thought me," he said afterwards in his unaffected way, "a better painter than I was."* He painted and planned that he might live, but

* "They thought me, in our country, a better painter than I was, which caused me to be often summoned to draw plans for use in courts of law. Then, when I had such commissions, I was very well paid."—

he lived only to learn. His quick and indefatigable spirit of inquiry never rested during those ten or twelve years of wandering. He questioned men and Nature, both incessantly; but Nature only gave him answers that could satisfy his shrewd and lively understanding. Much of the knowledge which he applied afterwards to his reasonings in natural history, was gathered during these years from all parts of France. He investigated arts of life, he studied monuments of antiquity, he visited the laboratories of Touraine, Poitou, and Anjou; his curiosity for truth was universal.

The track of Palissy, during the journeys which occupied the first years of his manhood, cannot be followed literally, and if we could discover it, we should be little profited. We know, generally, what every man must have seen during the next years which followed 1528; specially, we know also, by the artless revelation of his whole mind in his works, what most arrested Palissy's attention. His study of Nature must be dwelt upon hereafter, when we count its fruits; but there are external influences in society which act upon a character, as sun, and soil, and wind act on a tree, determining on which side there shall be most growth, and what shall be the prevalent direction of its branches. Since Bernard Palissy was one of those unwearied, nimble-minded men who have thoughts of their own, and thoughts of value, scattered about more fields *The Artist in Earth*. And in a prefatory epistle, also included in the selection from the works of Palissy with which these volumes close, he speaks of "tracing and lines of geometry, of which things it is well known that, thanks be to God, I am not altogether ignorant."

than one of human intellect, in following his course we have to keep our own eyes busy. We cannot, therefore, pass over his first years of observation in the world, without connecting fragments of experience notably diverse, and yet all important to the study of his character.

Philosophers, of course, were to be questioned. Palissy aspired to know what could be taught by the men wise in his own day, about the rocks and woods; his early familiarity with chemical substances used in the art of glass-painting, and the changes which they underwent when subjected to fire, had excited in his mind especial curiosity for knowledge that might be communicated by the chemists.

In the suburbs of a town, a little wearied by a morning's travel, Bernard sought admission at the door of a sordid house, belonging, as he had been told, to a great alchemist, who even claimed to be an adept in his art—that is to say, he claimed to have discovered its recondite secret. A small piece of his master's gold—if his pretension to the dignity of gold-maker were true—might have been applied humanely, Bernard thought, to the clothing and feeding of the servant who admitted him into a dusty and neglected chamber. His master, the man said, with a witless look of mystery, was engaged at that moment in his laboratory, marrying gold, in the name of God, to the quintessence of mercury; but when the wedding was over he would attend upon him. Having communicated this fact with a curious admixture of confusing words, the lean

attendant slipped out like a ghost, and went into the laboratory to play out his part of sexton at the marriage ceremony.

Bernard waited long, and had little to look at but a clumsy chair or two, and a table upon which were strewn some hard crumbs left after the adept's very frugal dinner; while through the broken lozenges of green glass in the window, there was to be seen a dusty and dilapidated road. He fell back, therefore, on his own reflections, and allowed his thoughts to wander freely through the tedious minutes. We may do well to follow his example. Philosophy, in France, was represented ill in that day. But during the same years which Bernard Palissy was spending as a traveller over the face of France, another wanderer was shifting restlessly from town to town among the German states. That wanderer was Paracelsus, a man wiser in science than his generation. By dwelling briefly on the memory of this teacher's career, we shall recal sufficiently well to our own minds the position of philosophy in Europe at the time when Palissy was seeking information in the workshop of the alchemist. We shall, at the same time, make acquaintance with a teacher of whom Palissy heard much, and whom afterwards he only mentioned with respect.

The Greeks and Latins supplied knowledge to that age, and even from the teaching of the Greeks and Latins many sound doctrines had been lost. In the beginning of the sixteenth century, Aristotle was to the learned in

Europe, what he is now only to the learned in Oxford—all in all. Pliny was then the leading naturalist, with a knowledge in advance of his successors; Celsus was a text-book to physicians. Bombast von Hohenheim disdaining, somewhat angrily, the imperfect knowledge of the past, and really competent to forward science on the road up to a higher future, assumed, according to the learned fashion of his time, a name that indicated his ambition. He would advance beyond the wisdom of the ancients: he was—Paracelsus.

High in intellect and bold in innovation, much deficient in the philosophic calm and the simplicity of mind which we have noted in the character of Palissy, while Palissy, aged about twenty-one, was journeying through France, Paracelsus, at the age of thirty-seven, wandered often ragged about Germany; a man beardless and feminine as to the fleshing of his features, yet with a power in the strange large fashion of the skull over his brain, that removed from his aspect all expression of a woman's weakness.* Man's weakness, too—man's privilege would be a truer phrase—was never to be betrayed upon his countenance; fate had removed out of his heart the tinder which is lighted by the sparkle of a woman's eyes. Inflammable enough he was upon less gentle provocation. The want

* There is a striking portrait of Paracelsus, from an old picture, prefixed to the *Paracelsus, sein Leben und Denken*, by Michael Lessing. I owe many facts to Lessing's book, but cannot praise it much. How differently would *the* Lessing—Gotthold Ephraim—have written such a Life!

of self-command destroyed his chances of prosperity. He had travelled much in his youth, and had been educated carefully. He had studied alchemy under Johannes Trithemius, Abbot of Sponheim; and chemistry—for the two studies were distinct, and even mutually hostile—at Schwatz, in the Tyrol, under Siegmund von Fugger, one of the chief chemists of a day when chemistry was little better than a rudely-shaped desire for knowledge of a certain class of mysteries in Nature. In the year before that which we have assumed to be the date of Palissy's first independent march into the world, Paracelsus had been made professor in his University of Basle. In a prospectus, more remarkable for truth than modesty, he had declared, that having been invited by a salary, he would daily, for two hours, discuss and demonstrate publicly the contents of books of medicine, physics, and surgery, whereof he was the author, to the great profit of his hearers.* He had held his professorship only until the succeeding year. The value of his teaching men acknowledge now, who look back to him as the first introducer of mineral drugs into pharmacy, and the first propounder of two medicines on which enormous reliance is to this day placed by the physicians—calomel and opium.

But there was, at Basle, a certain canon named Cornelius von Lichtenfels, who was afflicted with the stomach-

* The words of the prospectus run: "*Dominorum Basiliensium stipendio invitatus, duabus quotidie horis tum active, tum inspective Medicinæ et Physices et Chirurgiæ Libros, quorum et ipse Auctor, summâ diligentia, magnoque auditorum fructu, publicè interpretor.*"

ache; and the stomach-ache of Cornelius von Lichtenfels ruined the worldly prospects of a great philosopher. For the afflicted canon, who no longer dined canonically, had sought ease of the physicians of the town, and swallowed, as good patients ever ought to swallow, many quarts of potion. Then he applied to Paracelsus, who bargained to afford ease for the price of a hundred florins. The canon, having agreed to this, received three little pills containing opium. His pain departed; but since he was a man devoted to the ancient customs of the world, and had expected (as to this day patients often still expect) to get the value of his hundred florins, in six hundred draughts and many mixtures—the canon, who desired to be elaborately, orthodoxly cured, refused to pay for three small pills—not even boluses—so large a sum of money as had been agreed. Paracelsus then sued for his fee before the arbiters of law, and was informed by them that he could not lawfully claim payment of the canon, except according to the custom of the town, by charging for his medicine; and it was well known that one florin would have been a high price for three pills. Thereupon Paracelsus, moved—as he was too often moved—to wrath, informed the judges so emphatically of his opinion of their sense, that, to avoid the consequences of his great contempt of court, he was obliged to quit the town. This was in July, 1528; the wanderings of Paracelsus then began in the same year to which we have referred the commencement of the wanderings of Palissy.

Everywhere testifying his great skill and genius, everywhere at war with men of science, who were too blind to perceive his truths, and too proud to endure his temper, fulminating manifestoes of incompetence against the followers he left at Basle, and his disciples elsewhere—right enough, no doubt, in fact, though wrong in feeling—Paracelsus buffeted his way through Germany from town to town. “Have no heed,” he writes, truthfully, bitterly, —“have no heed of my wretchedness, thou reader, let me bear my ills myself. I have two sins upon me—my poverty and my piety. Poverty was reproached against me by a burgomaster, who, no doubt, had seen at Innspruck the doctors in silk-clothes at the prince’s courts, not in torn rags, a-baking in the sun. Therefore, the sentence was pronounced that I was not a doctor. For piety’s sake the preacher and the parson judge me, for I am not a votary of Venus, and have no love at all for those who teach what they never themselves do.”

Paracelsus, thinking on before the world, laboured impatiently to beat into the slow understanding of his generation that which he vividly perceived as truth. Instead of using all the arts of generalship to act on the dull mass, he was as one man labouring to kick into activity a heavy army of dragoons. They turned upon him; and in nearly the same year when Palissy brought to a close the ten or twelve years of his wandering, and felt that the real labours of his life would presently begin, in about that year, Paracelsus closed his wanderings in death, upon the pallet of a miserable inn, not fifty years of age, the victim

of a violence which his own anger had excited. It is said by some, that he had been severely beaten at the instigation of offended doctors, and thrown from a rock; so that the injuries he suffered caused his death to follow shortly, in the inn to which he had been carried. His skull became a curiosity; and a great physiologist* observed in it, some years ago, a crack, which he believed was the result of injuries inflicted before death, because after death bones do not part as those had parted. We may believe, however, that the skulls of men, like their reputations, when they suffer handling by posterity, are liable to many tumbles, many pickings-up; and skull or reputation may at last receive a crack, of which, after lapse of time, it will be very difficult for us to say whether we get it cracked from its possessor, or whether it has been injured, in some stage of its transmission to us, by improper handling.

Yet although Paracelsus, with his own impetuous philosophy, had made bold strides in medicine, and pushed his science far beyond the science of his day, it needed calmness more than he possessed, to separate the philosophic mind from gross and fanciful delusions common to his age. Instead of subjecting astrology and all its wonders to the test of a close reasoning faculty, and calling for witnesses to its truth, according to the simple-minded way of the untutored Palissy, the great physician was content to amplify its base, to lessen its absurdity by

* Soemmering.

mending its proportions, and to adorn it with suggestions out of his own ample mind. Accordingly, while Bernard Palissy, a youth, was visiting the alchemists, and penetrating their delusions with the clear light of his own home-bred reason, Paracelsus was at Augsburg, publishing an astrological prediction—a prophecy for the years 1530 to 1534, entitled “*Practica** D. Theophrasti Paracelsi.” The hieroglyphic on the title-page represented a military man, with a drawn sword in one hand, and a large buckler in the other, who stands on his head in a blaze of fireworks. He balances himself upon clouds, a great star blazes on his body, and light streams out of his mouth, irradiating a group of warriors of all nations, who stand below. A dead king, stretched upon a bier, is master of the foreground. The prophecy of Paracelsus boded a struggle between two mighty lords, with profit to neither—no very bold thing to foretel, considering the movements caused by the struggle between Charles and Francis, who were quarrelling and fighting like two

* “*Practica*” was, in that age, the common title of an astrological prediction. “*Practice*,” in German at any rate, was a word at first used as applied only to special pursuits, and did not become a general term for many years. Our physicians at this day apply the word specially to the business of medicine, our barristers to the business of law, &c. The first application of the word, in German, was to the business of astrology; and “*Practice*,” in 1530, meant, to a German, only an astrologer’s prediction. I do not see any mention of the “*Practica*” among the works of Paracelsus, in Michael Lessing’s *Life*; but it is included among other “*Practica*” of the sixteenth century, in a German black-letter volume which is in the library of the British Museum. It may, or may not, be well known; it is, certainly, authentic.

naughty boys—the misfortune added, that they happened to be kings, with nations to be torn instead of pinafores. “Trade,” prophesied Paracelsus, “will suffer ruin; no man will regard other than his own gain, and honour will be held in small esteem.” One might question whether Paracelsus went the whole way to the stars for that discovery; but if he did, it is unhappily most certain that he might have spared himself so far a journey. Deaths of potentates, and other matters prophesied, did not take place. On the foundation of a false science, it mattered not how great might be the genius of a builder; in the world of shadows, as we were told, long ago, by Mycilus, the cobbler, “there is no distinguishing the brown from the fair, for all is of one colour; and who can see a difference between these rags and those robes worn by a monarch?” The cobbler would paint quite as well as Zeuxis on a cloud, or raise as fine a work as Phidias upon a quicksand. There are, however, phrases in the “Practica” of Paracelsus, which one might gladly wrest into the service of a modern meaning. Forgetting macrocosm and microcosm, one might apply to a new thought the sentence of Paracelsus, that “those who would understand the courses of the heaven above, must not omit to recognise the heaven in man.” We may take also a disjointed sentence from the Augsburg prophecy, and fix it as a motto to the scientific spirit of its age: “In the concealed lies that which it is requisite to know.” Men had not, at that time, learned that it was requisite to master thoroughly

the known, and by a slow enlargement of its limits from within, to encroach upon the limits of the unknown. Philosophers spent labour on mysterious assumptions, and spent toil upon astrology and alchemy, as, in our day, philanthropists spent sympathy on Timbuctoo; despising common information as too mean to dignify their calling, they bestowed their labour on a shadow with a name, and were very deeply imbued with a belief that it was only requisite to know that which was not known, and that what little happened to be already known was hardly worth acquiring. The extent, therefore, of the practical acquirements of a work-a-day philosopher in the year 1530, exception being granted for the men of genius—for Paracelsus and his like—a gnat might measure without shifting his position.

Here is the adept, with an eye dulled by his furnace-heat, and an extremely famished countenance, who comes at length to break young Bernard's reverie. A white-haired man, bent possibly with age, and yet his bending looks more like the stoop of a man listening. There is, at times, a quick nervous movement of his eyes from side to side, and an unconscious falling of his features into a vague expression of anxiety, which very soon attract the observation of his watchful visitor.

"You did not hear me enter," said the Alchemist, after a frigid greeting.

"Did you not enter very softly? Or perhaps I was not attentive. I was thinking about Paracelsus."

"Yes, I saw him," said the Alchemist, "in France, before he went to Basle; he is a great rogue. He misuses our divine science. He should be a chemist altogether, if what I am told is true. He is no less a rogue. The greatest man of our time is Cornelius Agrippa."

"I have heard chemists abuse masters in your art," said Bernard, "but I have not joined with them. I desire more knowledge of the truth; and because I heard you were an adept, out of my great boldness I have come to you. Will you disdain to assist one so young?"

"If you have wealth," said the old man passionately, "do not consume it in the furnace. Come with me."

They went into a chamber furnished lavishly with furnaces, with sand-baths, with stills, crucibles, alembics, retorts, and receivers, and pervaded with a suffocating fume, through which the lean assistant might be dimly seen, and more distinctly heard in the convulsions of a cough. Palissy coughed too, but the dry old Alchemist seemed easy as a shepherd in the mist of his own mountain. "I was rich enough once," he said, "but I lost all at the very moment when I was upon the trace of the universal elixir and alcahest." What more the old man said, for many minutes Bernard could not comprehend; for he talked phrases of alchemy, and mingled his speech very plentifully with words like those which Geber, in the seventh century, had given as a model of alchemic elocution, at the same time that he, perhaps, gave his own name to the future uses of the world, as the exponent of a style

of speech called, in his honour, gibberish. But Palissy could make out that, in a certain condition of the *sal sapientum*, the sun and flying dragon were so circumstanced, that a peer of France was induced to speculate in their extrication out of difficulty. "Many nobles," said the old man, "share with alchemists, or practise the divine art—the chemistry of chemistry, distinguished above vulgar miscellaneous experimenting, as *al-chemie*. The resources of a great peer only," said the old man, "had enabled him to complete the great work." Then the Alchemist, who would almost have cut the throat of Bernard, if he had believed him capable of profiting by the instruction, proceeded, through ten minutes of gibberish, to confound and bewilder the attentive youth, concluding with the quiet statement, that*—"Thus, friend, you have a description of the universal medicine, not only for curing diseases and prolonging life, but also for transmuting all metals into gold. Give, therefore, thanks to Almighty God, who, taking pity on human calamities, has at last revealed this inestimable treasure, and made it known for the common benefit of all."

"Can you show me any token of success?" asked Bernard.

The Alchemist took from a shelf a silver coin, one half of which appeared, by dipping in some liquor, to have been converted into gold; he showed to the youth, also, a

* The words in the text are those of Arnold, of Villeneuve, a famous alchemist.

nail, of which the point was gold, and the head iron. Bernard fancied that he detected in the nail a clever specimen of soldering; the coin he could not understand;* but he believed deception to exist, because the gold-maker was obviously unable to supply his purse out of his crucible.

"Why are you poor?" asked Palissy.

"I am not poor," replied the Alchemist; "but were I to display wealth, and make known my power, I should be a victim to the avarice of men."

"The chemists say that you are victims to avarice already, of your own."

"No doubt," the old man piped, "for they are envious. Have you talked with chemists? What else do they say?"

"I have found but few," said Bernard, "and those laughed at you alchemists for seeing the perfection of science in the solution of a single problem."

"And what problem!" cried the Alchemist—"wealth and long life, and health, secured to man, by the imperishable property of gold communicated to his living body."

"They say, that since gold came to represent all needs and luxuries of life, it became an object of lust; for the last seven hundred years at least, men, who should have been advancing sciences, have been incited by avarice to labour that they might transmute less precious metals into gold. Had you succeeded, they say, you would be not

* The coins so used were of gold, and partly dipped in quick-silver.

philosophers, but only artisans, mere gold-makers; but as it is, while you do not succeed, you are mere ghosts—mechanics in a trade which has not an existence—men from whom nothing solid is received, and nothing spiritual learnt. I thought the judgment of the chemists harsh, and humbly seek your laboratory for instruction.”

“ You are a good youth, and my instruction is, that when you see a chemist, you should spit upon him. He does not know what he desires; he bakes and boils at random, hoping to alight on something, and he knows not what. We know the divine object that we have in view. Never believe that alchemy has no success to boast. Our science has been studied, not for seven hundred years, but from the beginning; Adam studied it.* The Egyptians discovered its most secret mysteries, and wrote them on their walls. The wealth and glory of Egypt were caused by its wisdom, and its wisdom had acquired the art of transmuting baser metals into gold. How else could have been acquired the vast masses of gold, the statues and platings, of which ancient writers speak: we never see gold in such masses now. When the armies of Sesostriis, the great King of Egypt, spread over Asia, some remained in Colchis; and among these were

* All that the Alchemist says, is to be found in the writings of his fraternity; but I am obliged to outrage probability, by making him talk in an intelligible fashion. Moses and Queen Cleopatra were reputed authors of two books on Alchemy. Moses was not an adept; Cleopatra was. Among other names in the list of students are Caligula and the Apostle John!

priests, adepts in alchemy, who taught the Colchians how to make gold. You may have heard the story of the Golden Fleece which Jason fetched from Colchis. No? I will tell it you. The secret of transmutation was unwisely written by the Colchians on the skin of a beast, skins being used for writing upon in those days; and from the nature of the secret it was able to reveal, that skin was called the 'Golden Fleece.' When the Greeks heard of its existence, they sent out an expedition to fetch home the prize——"

The loud explosion of a retort caused the Alchemist to hurry to the furnace which had caused the mischief. Bernard was turning away to escape absolute suffocation, when the restless eye of the old man detected his attempt at a retreat, and he followed to present to Palissy his yellow palm. The miserable creature seemed to have succeeded in the transmutation of himself, so far as colour was concerned, and to have roasted out his succulence so far as to assimilate his flesh to a metallic toughness. Palissy put what coin he could afford into the adept's hand, which clutched it with strange eagerness. As he continued his path, thoughtfully and slowly, towards the centre of the town, Palissy was overtaken by the gold-maker's assistant, who passed him with an eager run, and disappeared, at a short distance up the narrow street, within a butcher's shambles. Poor fellows! thought Bernard; their work certainly appears to make them very hungry.

CHAPTER V.

COMMOTIONS IN THE CHURCH.

THE great German Reformers of the Church were in the heat of their zealous labour, far away, when Palissy came out into the world. Luther, Melancthon, Zuinglius, and hundreds more, were active workers on the European mind. Their labour had, however, little influence in France; the struggle for spiritual emancipation in that country was a struggle by itself. To the religious strife in Germany we need scarcely do more than allude. We assumed 1528 to be the year in which Palissy quitted his native roof. It was in the next year, 1529, that, in another part of Europe, the protest of fourteen imperial cities against the intolerant decisions of the second diet of Spires, first gave to the reformed section of the Church abroad the name of Protestant.* These familiar facts we recal with a word or two to memory. It may help us,

* The cities deserve naming frequently; they were—Strasburg, Nuremberg, Ulm, Constance, Reutlingen, Windsheim, Meiningen, Lindau, Kempton, Heilbronn, Isna, Weissemburg, Nordlingen, and St. Gall.

also, to connect more easily together, in their due proportions, all the parts of the rough picture which the world must have presented to the mind of Palissy, if we do not omit to note how the mists of astrology, in which we have seen even Paracelsus wandering, could penetrate also into the discussions of the Church.

The number of the beast in Revelations was a stone which disputants on either side endeavoured to claim as their own missile. An orthodox scholiast on three sermons of St. Vincent, with another sermon of St. Hippolytus—what Vincent, what Hippolytus, I give myself no trouble to inquire— informs us that “the learned Staphilus calls the beast—

Α	ο	υ	θ	ε	ρ	α	ν	α
30	70	400	9	5	100	1	50	1
666								

not a bad invention. To me,” he says, “it is more frightful to consider, that the whole name of Martin Luther fulfils the exact number. For if any one knows the alphabet according to Pythagoras, as it is commonly employed in the calculation of nativities, let him apportion to each letter its number, and then add them up, he will find the sum to be exactly 666, thus:

M	a	r	t	i	n	L	a	u	t	e	r
30	1	80	100	9	40	20	1	200	100	5	80
666”											

The good scholiast must have troubled himself much

in the manufacture of this frightful coincidence, before he found that he could make the sum correct by writing "Luther" down as "Lauter." He goes on to say, that many heretics have tried to fit the number to a Pope, but they have always failed; now, here they have it fitted to a nicety on their own apostate leader!

IN Germany, the Reformation prospered because princes saw no risk to their possessions when they followed their own choice in countenancing or discountenancing the movement. England had so far advanced in constitutional government, that the mind of the country could not be restrained. France stood entirely in a different position. The tendency of events, during its early history, had been to throw great wealth and power among ecclesiastics. The checks opposed to this had been comparatively slight; so that the Pope had grown to be a stronger man in France than even in his own dominions. In 1649, Louis XI. had been the first who received from the Pope the hereditary title of "Most Christian King;" the great power of the Church had been of value to the throne of France, and the French throne had been, in turn, a valuable buttress of the Church. In the mean time, the French people had found themselves, for many past years, ground among the millstones of Church property, which played into each other over the whole land. Tithes, and fines, and Church dues, for which but little spiritual value was given, made, especially, the peasants in the rural districts, on the provocation of their emptied pockets, very much

disposed to doubt the goodness of their spiritual guides. Where the population was high-spirited, the disaffection had been marked. The longing for a Reformation in France had preceded the Waldensian and Albigensian Crusades.

Up to the time of Palissy, this feeling had been growing, and in his time it existed throughout France in many bosoms, as the harvest naturally sprung of manifest oppression. In the year 1515, Leo X. and Francis V. had met at Bologna, where they had drawn up an agreement between themselves called the Concordat. By this the king conceded to the Pope what he desired in France—an absolute supremacy, and independence of all councils of the Church. Leo paid the king for his complaisance by despoiling the ecclesiastical corporations of the power of nomination to bishoprics and abbeys, transferring that power to the king. Against this concordat, the clergy, the university, the parliament, in vain protested. “There is a king in France,” said Francis, and he had his way. The result may be told in the words of a Venetian ambassador to Paris at the time: “The king gave away bishoprics at the solicitation of the ladies of his court, and employed his patronage of abbey lands to reward his soldiers, so that the bishoprics and abbeys of France were reckoned as much merchandise by the court, as the trade in pepper and cinnamon is among the Venetians.”

Church appointments were thus distinctly perverted into money speculations, and the money was that of the

working men spread over the fields of France. The restlessness under a Church that cost them much, and gave them little—often absolutely nothing—in the way of spiritual equivalent, taught parishioners to grumble and inquire. They began to question doctrines that had too often a suspicious bearing on the increase of a Church revenue, and they began to inquire into prayers, of which the Amen was always Pay Us. They felt disposed to ask that those whom they paid for teaching them should come and teach. That would have imposed pastoral duty in French provinces upon polite little children in Paris very often, or upon grisly men at arms fighting in the wars of Italy. It was, unhappily, the fate of the French people, that they could not claim religious liberty without claiming the overthrow of so large a part of an unjust political system, as would affect deeply the incomes of ecclesiastics, peers, and nobles, and cut off a large slice of the power of the king. Self-interest banded all the rank and riches of the country into a strong party, against which the struggle for reform was vain.*

* “Oh, poor Christians, and what place is yours? You thought to abase idolatry, and to have gained friends to your cause; I know now that you were not on the road to that; for if I may believe this counsellor, you have all the courts of parliament against you; and if it be as he has told me, you have also many great lords who take profit of the revenue of benefices; and while they are intoxicate with such a potion, you must fain know that they will always be your capital and mortal enemies. Therefore I am of opinion that you should return to your old simplicity, assuring yourselves that you will have enemies and be persecuted all the time of your life, if by direct paths you will follow and sustain the cause of God.” This, and many other passages

The struggle was made, however, and had already begun. Images of saints, almost the first error against which reason openly rebelled, prompted to vengeance by the recollection that these images had been sharp instruments of Church extortion. They were destroyed in many towns by a tumultuous rising of the people, and the severest punishments had followed to avenge each outbreak. Meanwhile the spirit grew that was to struggle for the right.

The temper of the king towards reformers, during the time when Palissy was travelling through France, cannot however be correctly understood without attention to some other points. We must call to mind the title of King Francis as "Father of Letters." He was, in fact, clever for a king—that is to say, he had wit enough to desire the company of clever people. Some of their opponents tell us that the heretics being commonly deficient in rank and wealth, were driven to depend upon their talents, and became, therefore, exceedingly accomplished. They hoped thus to win converts to their cause. This is not false; but it is also true, that men of sound judgment and quick fancy, men with the largest minds, would be the men most likely to climb boldly up above the prejudices of their day. Such men carry the stamp of high ability about with them, and in his kingly-clever way Francis enjoyed their company, liked them to think to the same purpose, will be found in the selection from the works of Palissy with which these volumes end.

that he was able to appreciate their talent. For their opinions he did not care a sol. When not under the influence of policy he laughed at doctrinal complaints against his courtiers.

Then there was the king's mother, Louisa of Savoy, and there was his clever sister Margaret, Duchess of Alençon,—Margaret of Valois. They were both clever people. The somewhat recent practice of admitting ladies to the court, had introduced much light frolicking. Boccaccio was a darling author, and to imitate him had become a fashion. Before the reign of Francis, royal brains had been beaten for the production of novelettes; royalty sets a fashion well afloat. In the time of Francis, therefore, it was an established custom at court, in Paris, and in the chief towns of France, for people to give story-parties, as we now give parties for quadrilles, at which they met to sup, and tell each other stories, after the manner of the gentlemen and ladies in the pages of Boccaccio. In this game, mother and daughter, Louisa and Margaret, had tried their skill. Louisa owned that Margaret had beaten her. The novelettes of Margaret of Valois live in print; and though she may have been one of the most cultivated women of that time and country, women of this time and country could not read her compositions without a whole rose-garden of blushes.

Louisa of Savoy was a rigid Catholic; Margaret favoured and protected the reformers. Louisa was not an ascetic, but she persecuted upon policy, for she was shrewd.

Margaret was not a religious woman, but she did not care for policy, and she did care to be surrounded by people of good sense and taste. Persecuted heretics, if they were clever men, had a sure refuge in her circle; and they might preach, if they pleased, as they travelled with her. Louisa was shrewd. When Francis was carried prisoner to Madrid, having sent his mother the bombastic message that he had lost all save honour, Louisa became regent, and displayed her tact for state-craft in sundry ways. One of these ways was the institution of severe measures against the dissentient members of the Church. When Francis was released by his rival on parole, and broke his parole to recover his kingdom, he did not send word to Charles that all was gained by loss of honour. Francis then, resuming the reins of his government, found that the reform horse had been severely punished by the temporary driver; should he relax in that severity? Policy hinted that he should not; so thought also the Pope, to whose power he now had a new cause of attachment:—the Pope had absolved him from all consequences that might follow after death upon the perjury committed at Madrid.

Francis had more to prompt him than his mother. The Pope was already powerfully represented at Paris by the astute and unflinching doctors of the Sorbonne.*

* The chapel, house, and schools of the Sorbonne, a hundred years afterwards magnificently rebuilt by Cardinal Richelieu,—then consisted of the original structure raised in 1253. The priest Robert, native of Sorbonne, a poor village in Champagne, who struggled hard

In the mind of Francis it is not possible to detect the influence of any fixed religious principle; he was essentially a selfish man, and, as selfish men go, not of the best. I may have given some confusion to the idea of court feelings and court motives as they affected the interests of a Reformed Church in France, and I have left it complicated with a mention of extraneous frivolity. This confusion certainly existed in the king's mind, and prompted many inconsistencies; once, for example, he supported Church reform in Switzerland at the same time that he was overthrowing it in France. Let us turn now from kinghood to manhood, and quit Francis I. for Bernard Palissy.

Picture-making, glass-painting, and occasional employment of his skill with rule and compass as a land-surveyor, sustained Palissy upon his travels well enough. Closely observing nature, carefully inquiring into all he saw, acquiring yearly new stores of experience, Palissy ripened, as the years went by, into a practical and earnest man. The outward covering of Frenchmen whom he met in those days, was to him, and is to us, a matter of no great concern. They were the days of knights who rode in armour, and swept down upon the enemy in battle, or on a rival at a tournament with lance in rest.

through poverty to the degree of doctor, and thereafter became chaplain to "St. Louis," little foresaw the curious position in the country which was to be attained by a college founded only for the aid of strugglers such as he had been. It began with sixteen needy pupils and three teachers.

Such men riding along the road in their own portable fortresses, must have been to Bernard every-day sights. If we look at those pictures, on tombs and elsewhere, in which the occurrences thought most worthy of illustration were reproduced by contemporary fingers, we find in the years corresponding to this period of the life of Palissy, mailed knights and crossbow-men in closely fitting dresses; men on foot commonly in dresses fitting closely to the limbs, suggestive of a period of war, and the necessity of putting no encumbrance upon bodies made for animal contention. Even the hair seems to have been rather closely cropped, except upon the heads of men pursuing peaceful occupations. Horsemen, when not in armour, wore a short tunic; and the same garment over the closely-fitting dress was worn by countrymen and townsmen, who worked on their farms or in their shops. High state had, of course, some robes; and the long robes of scholars and ecclesiastics indicated, by enveloping the body and serving as impediments to action, that they were men of peace as to the flesh, whose business it was to wrestle with the spirit only.

The dwellings of the poor and of the middle class were wretched or uncomfortable, the palaces and mansions of the rich were fortresses. We see them in pictures as dull masses of rock, with windows bored irregularly here and there upon the surface, most of them miserably small, as if too large an opening would be too great a breach by which an enemy might enter.

But we may remark here, to forestal the necessity of again reverting to the subject, that the period occupied by Palissy in travel was the period in which these grim old homes died out. Francis, with his patronage of talent, brought into France new tastes; and it was at the time in which we are just now concerned, that Italian models were about to influence the architects of France. The palace of Chambord had been begun by Francis I. in 1523, and he had then no better idea than to build it in the rude and sombre fortress style. The palace of the Louvre itself was a building of the same description. The rebuilding of the Louvre, under the eye of Francis I., by Serlio, who was protected at his court, and the erection of the present structure from the plans (which Serlio candidly preferred to his own) of Pierre Lescot, indicate how great a change had in a few years come over the architecture of the country, since King Francis built the palace of Chambord.

Examples of religious persecution, cruel punishments of heretics in market-places, and expressions of much discontent on matters of religious doctrine, must have formed no inconsiderable portion of the experience upon which Bernard Palissy looked back at the conclusion of his years of travel.

Palissy was more than once in Paris during early manhood; at what dates we do not know. Let us suppose that he was a day's journey from Paris on the 11th of February, 1535, being then about twenty-five years old. Many

people had set out from distant towns and villages, and were a-foot on the same road, for there was a great spectacle impending. A grave man, a member of the University of Paris, had found in the young painter a pleasant road-acquaintance; and through the frosty air, unconscious of the light snow that was falling, they were walking briskly on, earnest in converse. Their feet kept pace with the quick current of their thoughts, as they stepped rapidly together, and passed, forgetful of the customary greeting, many a more dilatory traveller.

“No doubt,” said the scholar, “it was a wild act, to incense the king; but the punishment is not upon the act, but on the opinions that prompted it. I do not ask whether you share their heresy”

“The real presence in the Sacrament I doubt,”* said Palissy.

“Doubt!” replied the scholar. “They say that all sacrament receives the name of sacrament because it is the symbol of a sacred thing; so that it is necessary to com-

* I feel it difficult to mark the time when Palissy began to adopt the opinions of “those of the new religion;” but as he acted upon them certainly soon after he acquired a fixed abode, and was of a temper that would lead him to inquire from the beginning, I feel no doubt that he became a heretic during his early travels. The statement and defence made by the scholar of Reformed opinions—in fact, the whole of the scholar’s part in this chapter—is made up of translated fragments from a most able and temperate little book, published during the lifetime of Palissy, for the purpose of stating to the French briefly the reasonableness of the Reformed doctrine. The book is entitled “*Apologie ou Défense pour les Chrestiens de France qui sont de la Religion Evangélique ou Réformée, satisfaisant à ceux qui ne veulent vivre en paix et concorde avec eux.*” *Geneva*, 1578.

prehend the outward sign by the eye, and by the spirit the thing signified, which is inward and spiritual. When we divide these parts in the Holy Supper, the bread and wine are then the sign which we see with our eyes, and receive by the mouth; but the body and blood of our Lord Jesus Christ, they are the thing signified, which we comprehend and receive by the spirit, as a true spiritual viand, destined to nourish spirit and not flesh. Now, to receive and eat this spiritual viand, and to cause it to digest in our souls (which are spirits), to nourish them and make them live eternally, it is necessary that there be a spiritual man-education, since both food and soul are spiritual"

"But these men," said Bernard—"these *Sacramentaires* as they are called, who too boldly have denounced the notion that the real body of our Lord comes down from heaven daily—in countless morsels—to be chewed between the foul teeth of priests, and digested with the garlic in their belly,—these are the men whom the Pope has moved King Francis to destroy. In truth, I doubt the wisdom of the Pope."

"The Pope," answered the scholar, "is a prince in defiance of the canons of the Church. St. Gregory, Bishop of Rome, whom they all call the greatest of the Popes, wrote thus: 'If any one attributes to himself the name of Universal Bishop in the Church, what will be the judgment of all good people?' The universal Church would fall from its estate when he who was the universal bishop fell. Far be then from the heart of Christians, says

St. Gregory, this blasphemous name, by which the honour of all priests is taken, being unjustly usurped by one."

"And you have other differences yet," said the young painter, thoughtfully.

"The difference between us, touching the commandments of God, is not small. For we accuse the Church, or rather the Pope, of having effaced from the Decalogue the second commandment, which forbids images, and of having split the last one into two, in order to maintain the number ten. Truly it is a great sacrilege, and a temerity quite insupportable, to have dared to erase a whole commandment of the law of the living God. For if you observe the commandments which the curates are accustomed to pronounce at the parochial mass, you will find, that immediately after the first commandment, 'Thou shalt have none other Gods but me,' they have put the third, 'Thou shalt not take the name of the Lord thy God in vain,' and have effaced the second, which forbids the bowing before graven images, or the likeness of anything that is in heaven and earth. This has been done by the Pope and his supporters, that they might be more easily able, without attracting notice, to fill the temples of Christ with idols, and male saints and female saints, and then draw to them all offerings, obventions, and other profits, as has indeed been the result."

"I have doubt, also," said Bernard, "of the efficacy of masses, except as aids to the coffers of the priests. What have you to say to me of them?"

“If by means of them,” the scholar answered, “and of other pretended good works, one can gain paradise, it will follow that paradise must be without comparison more easy to gain by the rich than by the poor. For the rich have much better means than the poor of causing masses to be said, of making gifts to priests, of going on long pilgrimages, of buying good fish that they may abstain on a fast day from eating meat,—they have better means of doing these, and other like things. So for the rich the gate of paradise would have its hinges greased, while for the poor it would be difficult to open; those who have the wherewithal to be happy in this world would be happy in the next, while to the poor both worlds would be miserable. This would be an unseemly thing. But, on the contrary, it is certain that paradise opens its gates more readily to the poor than to the rich, and that it is hard for the rich to enter.”

“Truly the poor receive but little in this world,” Bernard said.

“Less than their dues,” the scholar answered, as he shook away the snow which had collected on his bonnet. “By the ancient canons of the Church, the tithes are called the tributes of the poor: and for this reason they who do not duly pay the tithes are reputed guilty of the death of men who perish in their district through necessity and indigence.”

“I have seen two men dead by the roadside since this month began,” said Palissy.

“ And who will estimate the guilt of those who well know how to exact these tithes, and who keep them for themselves, and who retain the portion of the poor ! What do the canons say of those who retain the portion of the poor ? ‘ The tithes,’ says one, ‘ are the tributes of the indigent souls, so that if you pay well the tithe, not only will you receive abundance of fruits, but also health of soul and body. He who does not pay, is an usurper of the goods of others ; and as many poor as die of hunger in the place where he dwells, so many will be the homicides of which he will be held guilty before the seat of the Eternal Judge, because he has converted to his own use that which was destined for the poor.’ It is said in a canon taken from St. Ambrose, that ‘ the Church has gold not to keep it, but to distribute it to the necessitous.’ The canon taken from St. Jerome says, that ‘ to appropriate goods of the poor, is a crime which surpasses the cruelty of the greatest brigands in the world.’ There, you have a definitive sentence which the good doctor, St. Jerome, has pronounced against those who retain the goods of the poor, and apply them to their own use. O Eternal God ! how many brigands have we at this day in the world who are condemned by the sentence of St. Jerome.”

“ Perhaps,” said Palissy, “ since you are well read in the canons of the Church, you can find it written there that they who clothe themselves with the wool of the flocks ought also to provide them pasturage. Is preaching not ordained to priests ?”

“ By a canon of the Tolitan Council, ‘ Ignorance, mother of all errors, should be greatly avoided by the priests, whose charge it is to preach God’s word to the people. The priests are admonished to read the sacred Scripture by St. Paul to Timothy: ‘ Preach the word; be instant in season, out of season; reprove, rebuke, exhort with all long-suffering and doctrine. Let the priests know the Holy Scriptures and the canons, and all their work be preaching and doctrine; and let them edify each other as well by knowledge of faith as by works of discipline.’ But where are now the pastors who undertake to preach? Will you find one in a hundred? There are none but some monks* who undertake the task, and by them it is done against the professions of monasticism. For by the canons it is not allowed that monks should preach.”

* “ The bishop, or his counsellors, resolved in those times on a trick and stratagem extremely subtle; for having obtained some order from the king for the cutting down of a great number of forests which were around this town, nevertheless, because many found their recreation in the woods and pastures of the said forests, they would not permit that they should be levelled; but those following the Mahometan artifices resolved to gain the heart of the people by preachings, and presents made to the king’s party; and sent into this town of Xaintes, and other towns of the diocese, certain monks of the Sorbonne, who foamed, slavered, twisted, and twirled themselves, making strange gestures and grimaces, and all their discourses were nothing but outcry against these new Christians; and sometimes they exalted their bishop, saying that he was descended from the precious blood of Monseigneur St. Louis; and in this way the poor people patiently allowed their woods to be cut down; and the woods having been thus cut, there were no more preachers.”—*Bernard Palissy*, in the History of the Troubles of Xaintonge. This history will be found in the selection from the works of Palissy at the conclusion of these volumes.

A stout thump on the back took from the scholar his remaining breath, and a ruddy youth, who had lost some of his own wind in the chase after a companion, thrust himself with little ceremony into the conversation.

“Hammering at the canons, Master Alain. You must leave off. Teach whom you will the road to the stake, but for old acquaintance sake, spare me. Pooh, pooh, you look too serious by far. I dare not be seen walking with grave faces, lest I be accused of thinking. If you wish to die in your bed, Alain,—don’t think.”

CHAPTER VI.

THE FRENCH REFORMER.

FURTHER to divert the attention of his neighbours from a sober train of thought, the ruddy young gentleman proceeded to perform a feat of jugglery with snowballs, and thereafter volunteered a story to beguile the way.

“ You know, Alain,” he said, “ I am a good Catholic, and you are a wicked Sacramentaire. You have talked too much with Pierre Robert, Jean Cauvin, and that set; I go to mass, and faithfully attend the ministries of Jean du Pontalais.”

“ Is he a preacher?” inquired Bernard.

“ Certainly he is. The monk comes badly off who undertakes to preach against him, as I’ll tell you presently. But since you seem to be a little ignorant of Paris—not to know Jean is to be ignorant of Paris—I had better tell you more explicitly that Jean du Pontalais fixes his pulpit in the market-places. Ah! you shall go and hear him thunder with a great sword in his hand—O no, not the

sword of the Church; he has no more ill-will to heretics than to the orthodox, if only they pay their pence; and, wonderful to tell, *he* is paid always without grumbling."

"He is a mummer," explained the student.

"Mummer! He is the Thespis of our nation. After-time shall hear of Jean du Pontalais. See him at the head of his troop, all gay with spangles, marching to the sound of music through the street, mounting his platform, speaking his prologue, marshalling his heroes up the steps which they are to descend each as his turn comes to strut upon the stage. Let me tell you, Master Alain, that the Comedy of the Acts of the Apostles* is good preachment. Now, Alain, it becomes you ill to frown at our theatricals. There is not so much pleasure in the world that we can spare one harmless source of laughter. If the preacher makes the church too dark, the people will prefer to stay out in the sunshine. Well, there was a preacher who believed himself a fountain of enlightenment. 'Others,'

* Jean du Pontalais was at this period the representative of the drama in France, though his contemporary, Pierre Gringoire, wrote plays of a more cultivated nature. "The Comedy of the Acts of the Apostles" was not represented by Pontalais until 1541; the quaintness of the title tempted me to name it here. The story which follows is taken from "Les Contes, ou les Nouvelles Récréations et Joyeux Devis de Bonaventure des Periers," valet de chambre to Margaret of Navarre; first published in 1548. These jests, if jests they can be always called, are generally founded on some fact; but whether true or not, they help to illustrate the temper of the time. The Margaret of Valois, Angoulême, or Navarre, sister to King Francis I., mentioned in this note and in a preceding chapter, will of course not be confounded with the next Margaret of Valois, sister to King Francis II., who was contemporary with a later portion of the life of Palissy.

said he to himself, 'may have the doctrine, but I have the manner. I have the real turn of the wrist—the exact modulation which insinuates all that I teach infallibly into the hearer's mind.' He was a man who seldom looked at his own feet, or saw more of the houses than their chimney-tops. Now, Master Jean, having to play one Sunday afternoon, marched his procession straight towards the church in which the preacher was at work, drew up his troop in a cross-way under the church-windows, and ordered his tambourine to be sounded upon strongly, for the express purpose of stopping the preacher, whose congregation he designed to bear off to the market-place. But it was not likely to obtain release; for the more noise the tambourine made, the more the preacher shouted to be heard in spite of it. So Pontalais and he contested who should leave off last. Presently the preacher gets into a rage, and says quite loudly, and full of clerical authority, 'Let somebody go out and stop that tambourine.' But for all that nobody went, except that if any one went out, it was to go and see Master Jean du Pontalais, who caused the beating to proceed louder and louder on his tambourine. When the preacher saw that, since he was resolved not to be silenced, 'Truly,' said he, 'I will go myself; let nobody stir; I shall be back immediately.' So when he came into the cross-way, furious with rage, he said to Pontalais, 'Heigh! what has made you so bold as to play your tambourine while I am preaching?' Pontalais looks at him, and says, 'Heigh! what has made you so bold as to preach while I am playing on my tam-

bourine?' Then the preacher, more vexed than he was before, took the knife of his famulus, and made a great gash in the tambourine with this knife, and returned into the church to end his sermon. Pontalais took his tambourine and ran after the preacher, and dressed his head with it, fitting it to him sily by the hole like an Albanian hat; and then the preacher, ignorant of his condition, remounted his chair, to urge the wrong that had been done to him, and how the word of God had been vilipended. But everybody laughed so much to see the tambourine upon his head——"

"Do you call this a jest?" said Bernard, mournfully.

"Surely," said the scholar, "when worldly dealings have abased the Church, till it is matter for such tales as this among the people, it is fully time for us to think——"

"Then, Master Alain," said the youth, "I wish you a good day. I have a kind mother in Paris, and a sweetheart on the Loire. I love you well, but I cannot afford your company. If there were nothing in the world, and I were wrinkled, I might then consider about getting myself burnt; but I am young, and love the fire of youth much better than the fires they are preparing now in Paris."

The fires preparing then in Paris, and which were to be fed on the succeeding day with human fuel, had a history attached to them, of course. One morning in October, 1534, when the king was at his Castle of Blois, a placard was shown to him which had been affixed to the

castle-gates by certain rash Sacramentaires, insulting the thrice holy and blessed sacrament. King Francis, in a fury, quitted Blois for Paris. The next morning there was a similar placard affixed to one of the pillars of the Louvre. King Francis breathed vengeance against the blasphemers of the real presence in the sacrament; the vengeance he desired, however, was against the insulters of the royal presence in the castle and the palace. To his worldly, knightly pride the placard was as a glove of defiance. So he took counsel with the Pope and the Sorbonne; and the result was a determination to affright the heretics, and to support the cause of order with a ceremony. For the 12th of February, 1535, a solemn day of humiliation was appointed; the king and all the high and mighty of the kingdom were to implore pardon from heaven, and avert from France the evils that might follow from the impiety of the Sacramentaires. At the same time an example of severe punishment was to be set, for the edification of the country.

To this spectacle crowds were now travelling, and at this it is not unlikely that Palissy was present; certainly, he witnessed many atrocities like it, even in those early days of the Church trouble in France. We will not, however, follow his steps into the town, nor suffer ourselves to warm into excitement over the horrors and contrasts of the scene he would have witnessed there. We must relate it, because it occupies a determined place in the history of opinion at that time; and for a comprehension of the

events and opinions which will belong to the mature life of Bernard Palissy, it is absolutely necessary to have a fair idea of the position of the French Reformers.

The spirit of this day--this 12th of February, 1535--will be most properly conveyed by telling its tale in the language of an ecclesiastical annalist* who was born at the close of the same century, and wrote as a faithful disciple of the Roman Church. To begin with the procession. Jean Bellay, Bishop of Paris, walked with the most sacred eucharist under a canopy, which was uplifted by the Dauphin, the Dukes of Orleans and Angoulême, sons of the king, and the Duke de Vendôme, first prince of the royal blood; there were also carried through the town, by robed priests, many relics of the saints. But the king himself bearing a lighted torch, his head bare, his eyes downcast, followed with the queen, and with a great pomp of people of all ranks, the sacred eucharist was carried from the Church of St. Germain to the Temple of the most Happy Virgin. Then the king, in a most grave and holy speech which he made, bore witness that he would oppose himself against all guilty heretics,

* Odoric Rinaldi, born 1595. A priest of the Oratory of St. Philip Neri. The "*Annales Ecclesiastici*" of Cardinal Baronius, member of the Institute of the Oratory, had been broken off by the cardinal's death at the 12th volume, and the year 1198. Rinaldi was appointed by the oratory to complete the great work, and by his hand the series was brought down to the year 1565. The story of the 12th of February, in the text, is simply translated from Rinaldi. It may be worth while to remark that 1535 was the date of the foundation of the order of Jesuits by Ignatius Loyola.

and that he would punish with severity even his children, if they should ever take the pox of heresy, and that he would strike off his own arm, if it ever could commit so great a crime.

On the same day, a most caustic punishment was endured by six offenders, who had published blasphemies against the adorable eucharist, in pamphlets which they had distributed; for they were bound to a huge wheel, which, being made to revolve, dipped them into the fire placed at its foot, and again carried them into the air, and afterwards, as they descended, they again were scorched, until at last, the links being divided, they tumbled headlong into the burning torture, and were consumed by the flames. Other men, guilty of the same impiety, were afterwards arrested in a body, from whom there were exacted cruel penalties. That severity alarmed not only as many French as were infected by the heresy, but also the heretical princes in Germany, who gravely inquired concerning it in letters to King Francis. They were answered, that he had lawfully put in force against them a severity of judgment, because, by the study of new-fangled ideas, they were exciting seditions in the kingdom.

So the tale is told. The grave inquiries of the German princes were not, of course, dictated by terror. Francis, in the network of his policy, had, as allies against the power of the emperor, princes of Germany who had adopted the reform which Luther preached. The violence

of the French king against the heretics, and more especially this public declaration of the 12th of February, suggested to Charles a means of interrupting the political friendship of his allied adversaries. He caused the German princes to be well informed of the events in France, and warned of the probable spirit of a friend who acted thus towards those of his subjects whose crime was only the being what his allies, the princes, were—Reformers in the Church. Upon this hint, the allies appealed to Francis. Francis did not choose to lose a good political position, and reassured the princes by informing them that the French heretics against whom the sentence of his wrath was issued, had no resemblance whatever to the Lutherans; that they were not mere seekers of Reformed religion, but men disaffected to the state, enemies to law and property, firebrands and Anabaptists. The answer to this sander came from Calvin, when he dedicated to King Francis his exposition of Reformed opinions, in a preface dated from Basle, August the 1st, 1536. His work translated out of Latin into French, became at once the text-book of the French Reformers.

Jean Cauvin (Calvin), aged twenty-five, had quitted Paris and France not many months before that day, in February, of which we have just been speaking. Calvin and Palissy were born in the same year, if I have assigned the right date to the birth of Palissy. The little sketch of the career of Calvin, which is necessary for the illustration of those troubles in which Palissy was closely in-

terested, we shall chiefly take from the lips of his disciple and successor in apostleship, Theodore Beza.* The birth of Calvin, when told in the words of Beza, will recal to our minds what has been said of the world at that time, viewed under another aspect.

“ I will begin,” says his friend, “ with speaking of his nativity, which was the 10th day of July, in the year 1509; and this I note, not that we may seek in his horoscope the cause of the events of his life, and much less of the excellent virtues that were in him, but simply with regard to history. And, in fact, since he himself had in such horror the deceits which are in astrology, which is called ‘judicial,’ that he has made a book purposely, in which he has shown in a lively manner, by good reasons, but principally by the word of God, that it is not a thing to be supported in a Christian Church, or republic wisely ordered, inasmuch as it is only vanity and lies,—it would be

* Theodore Beza, born 1519, was luxuriating on the fat of benefices until the year 1548, when, after a severe illness, he went to Geneva, and attached himself with violence to Calvin. He was a man of great acquirements and refined taste, marred by a turn for polemics surpassing the exigencies even of that age of struggle. In a treatise by Beza, defending the condemnation of Servetus, the whole doctrine of intolerance is preached as distinctly as it was practised by the ruling Church. After the death of Calvin, Theodore Beza edited the last work of his friend, the “Commentaries on Joshua,” with a biographic introduction. From this contemporary record, adding a fact or two, I have drawn the notice in the text. It was afterwards published separately, under the title of “L’Histoire de la Vie et Mort de feu M. Jean Calvin, fidèle serviteur de Jésus Christ. Prinse de la Préface de Theodore de Bèze aux Commentaires dudit Calvin sur Jougé.” Genève, 1656.

doing wrong to give rein to such speculations touching his own person. Only let us content ourselves to know, that God, purposing to employ him at the fitting time, placed him in the world on the abovenamed day. This was at Noyon, an ancient and celebrated town of Picardy."

Cauvin's father, Girard, being known for a shrewd man, of business habits, was much sought in his own neighbourhood, and became a familiar guest at the houses of the surrounding gentry. So it happened that the children of Girard had many well-born children for their playfellows, and Jean was sent to college in company with the sons of a high-born neighbour, though, of course, at his father's cost,—or rather, perhaps, at his own cost; for, by help of his highly-respectable friends, he was endowed with a benefice at the age of twelve. That was an every-day occurrence. Jean Cauvin, while a boy, had pocket-money from his benefice at the Cathedral of Noyon, his native town, and he had also a curacy at Pont l'Evêque, his father's birthplace.

At the College de la Marche, which he first entered, Cauvin had for one teacher M. Maturin Cordier, an earnest, simple-hearted man, who spent the whole of a long life in many places, but always in one work, instructing children; and at last died at Geneva, aged eighty-five, teaching still to within a few days of his death. Then Cauvin entered the College of Montaigu, where a Spaniard was class-teacher; and the youth's private tutor was a Spaniard, who

afterwards graduated in medicine. Under these influences, Cauvin advanced much in the study of philosophy.

Now, there was at that time studying in Paris a fellow-townsmen, an old companion of Cauvin's, and some years his senior. With this old friend, named Pierre Robert, it was natural for Cauvin to associate. Pierre Robert—known afterwards as Olivetan—had thought himself into Reformed opinions on the subject of religion; and the opinions of Pierre Robert* exercised great influence upon the mind of Jean Cauvin.

At the same time that the youth's mind was swerving from the Church, his father came to the opinion that law would be a more profitable profession for him than divinity. Jean was well pleased with his father's notion, and went to study law at Orleans. There he was a disciple under Pierre l'Etoile, afterwards president in the Court of Parliament of Paris; and he himself profited so well, that he began in a short time to play the tutor, and was employed more frequently to teach than to learn. He was offered a gratuitous degree, but he declined it. Then, because the University of Bourges was in much repute, on account of the excellent juriconsult, André Alciat, who taught

* Many English books follow one another in the statement that Olivetan's was the first translation of the Scriptures into French. It was made for the Swiss, at the instance of the inhabitants of Valais, and printed at Neufchatel, in 1535. There were several prior translations, of which note has already been made at page 43. My authority is a writer in the theologic department of the great French *Encyclopédie*, under the head "Versions."

there, Cauvin went to Bourges. But everywhere, whatever else he studied, he persevered closely in the pursuit of sacred letters.

These wanderings of Cauvin, in search of education, illustrate very well the way in which knowledge was literally pursued by young men who desired more than a common-place amount of information. The passage which I now quote verbally from Beza, pleasantly reminds us of a time when men and women went to bed at hours appropriated now to children. "As to (Cauvin's) apportionment of time to his studies, there still live persons worthy of faith"—(mark the asseveration needful as a preface to so wonderful a fact)—"there still live persons worthy of faith, who knew him familiarly at Orleans, who say that at that time he very often studied until midnight; and that he might do this, he ate little at his supper. Then, when awake in the morning, he remained some time in bed, remembering and ruminating all that he had studied overnight." (So, no doubt, he told his landlady; but I suspect that he was, in fact, not fond of getting up.) "There can be no doubt," continues Beza, "that such watches were very hurtful to his health. But he took those hours for his chief studies, in order to be able to continue more freely, and without being interrupted."

Among others to whom Cauvin was indebted at Bourges for intellectual assistance was a German friend, Melchior Volmar, who, perceiving him to be deficient in a knowledge of Greek, gave him instruction in that language.

At this time, Cauvin preached occasionally in a little town of Berry, named Lignières, and also visited the seigneur of that place. This gentleman afterwards, "having no other apprehension of things, only said in a general way, that it seemed to him that M. Jean Cauvin preached better than the monks, and that he went bluntly to his business."

While Cauvin was at Bourges, his father died. Upon this event, there of course followed family arrangements which recalled him to Noyon; and from Noyon, abandoning his law-studies, he went again to Paris, then first abandoning his benefices also. In Paris, it was not long before he published, in Latin, his Commentary upon Seneca on "Clemency;" they were "*Johannis Calvini . . . Commentaria*;" and Cauvin the student then first came out into the world as Calvin the scholar. From that time, the Latinized edition of his name began to grow into familiar use.

Among the friends of young Calvin, during this second period of residence in Paris, was Etienne de la Forge, a merchant, diligent and prudent in his business, but a simple-minded man and a good Christian. Calvin retained much love for M. de la Forge, who was eventually burnt for his adherence to the Gospel.

Now, Calvin had resolved to dedicate his life to the Reformed religion, and became intimate with learned men in Paris who were discontented with the existing character of the Church. One of these was Nicolas Cop, rector of

the university. Nicolas Cop, in the year 1533, made an oration at the feast of All-Saints, more advanced in the religious tenets it professed, than suited to the views of the Sorbonne and the parliament. It was determined to arrest him; and he retired to Basle, of which town his father, Guillaume Cop, physician to the king, was native. The known associates of the heretical rector fell, of course, under suspicion; and among them Calvin, whose chambers at the College Fortret, were entered, a little too late, for the purpose of making him a prisoner. Calvin fled to Saintonge—the very district in which the home of Palissy was afterwards established. There he dwelt in the house of a young man, whose friends were wealthy, and who had a benefice to live upon (Louis du Tillet, canon of Angoulême: his brother, chief notary to the Parliament of Paris, was celebrated for his love of letters). This young man persuaded Calvin, while in his house, to write Christian sermons and remonstrances, which he then caused to be preached by certain curates in the neighbourhood.

While at Saintonge, Calvin, on one occasion, made a voyage to Nérac, to see the good man, Jacques Faber d'Estaples, who was very aged. He had been teacher to the children of the King of France, but being persecuted by the Sorbonne, had retired into those regions. The good old man was much pleased to see Calvin, and to talk to him. After some little time—when the Cop scandal

was probably forgotten—Calvin emerged from his refuge in Saintonge, and returned to Paris. But very quickly, he found it advisable to avoid the spirit of persecution, and quit not Paris only, but also France. He did this in the year 1534, accompanied by one of his brothers, and by the young man who had given him shelter in Saintonge. Calvin himself was, of course, then also a young man, being twenty-five years old, but full of energy, and talent, and ambition. Before quitting France, he published, at Orleans, a little book upon the sleep of the soul after death, called “*Plychopanychia*.” Calvin retired to Basle, and was at Basle during that month of February, 1535, concerning which I have already spoken, busily at work upon a digest of Reformed opinions, which he proposed to publish under the title of the “*Institutes of Christianity*.”

The design of Calvin was not humble; he desired his book to be received as the declaration of faith and rallying-point of the Reformed Church in France: but there was need of such a mouthpiece, and to want ambition, would be to want manhood, where there exists power to climb high in any right direction. After the public atrocity of February 12th, 1535,—after the appeal of the German princes, and the reply of King Francis, stigmatizing the Reformers as political firebrands and revolutionists,—Calvin perceived that a good hint was given to him for the framing of his preface. The preface to his book, in which it was

dedicated to the most Christian king as a confession of faith,* dwelt upon the royal misconception on which persecutions had been founded, and affected to believe that when he had read that confession of the Reformed faith he would be glad to alter his opinions. The Sorbonne called this rank impertinence; so, doubtless, thought the king, since it at least implied that he had made a blunder, though it gave him credit for the candour necessary to a fit acknowledgment thereof. This preface or dedication (which is dated from Basle on the 1st of August, 1536) Calvin tells the king is intended† "to mollify your mind aforehand to give audience to the disclosing of our cause; which your mind, though it be now turned away and estranged from us, yea, and enflamed against us, yet we trust that we shall be able to recover the favour thereof, if you shall once have, without displeasure and troublous affection, read over this our confession, which we will to be instead of a defence for us to your majesty." (Here we should pause to remark the decided ambition which prompted Calvin, then but twenty-seven years old, to speak—undeputed—in the name of the French Reformers, and call his Institutes a book "which we will to be instead of a defence for us to your majesty.")

* It is called "*Præfatio ad Christianissimum regem quâ hic ei liber pro confessione fidei offertur.*"

† To preserve better the humour of the age, I quote Calvin, not in my own English, but with the spelling modernized, from "*The Institution of Christian Religion, written in Latine, by Maister John Caluine, and translated into Englyshe, accordyng to the Author's last Edition, by T. N.*" London, 1562.

“But if the whisperings of the malicious do so possess your ears, that there is no place for accused men to speak for themselves; and if those outrageous furies do still, with your winking at them, exercise cruelty in prisoning, tormenting, cutting, and burning,—we shall, indeed, as sheep appointed to the slaughter, be brought to all extremities, yet so that in our patience we shall possess our souls, and wait for the strong hand of the Lord,—which shall, without doubt, be present in time, and stretch forth itself armed both to deliver the poor out of affliction, and to take vengeance on the despisers, which now triumph with so great assuredness. The Lord, the King of kings, stablish your throne with righteousness, and your seat with equity, most noble king.” So the dedication closes; and if Calvin meant it really to be mollifying, it is very evident that he was no great master in the art of speaking softly. We are reminded rather of the opinion of the gentleman at Lignières, that “he went bluntly to his business.”

Of the accusations made against the Reformers, and which were, in truth, the accusations pleaded by Francis to the German princes, Calvin tells the king elsewhere in his dedication: “Herein is violence showed, that without hearing the cause, bloody sentences are pronounced against it: herein is fraud, that it is, without deserving, accused of sedition and cruel doing. And that none may think that we wrongfully complain of these things, you yourself can bear us witness, most noble king, with how lying slanders

it is daily accused unto you: as, that it tendeth to no other end but to writhe from kings their sceptres out of their hands, to throw down all judges' seats and judgments, to subvert all orders and civil governments, to trouble the peace and quiet of the people, to abolish all laws, to undo all properties and possessions—finally, to turn all things upside down.”

It has already been pointed out that these accusations against the reformers were not founded upon nothing. The ecclesiastical abuses had become so completely blended with the political system in France, that religious became unavoidably, at the same time, social and political, reform. In our own country, at the present day, we have our civil list, our sinecures, and vested interests. We know what jealous eyes watch over them, and what a revolutionary thing it would be to destroy or cut down the incomes of some thousand men—grand falconers, lay impropiators, pluralists, and others, whose only social title to the income they derive from their nation, or their parishes, is that they were born or bred into a habit of regarding it as theirs. The misuse of Church patronage in France, in Calvin's time, was so extensive, so inveterate, that the most elementary principles of Church reform could not be put in practice, without doing what a warm lover of existing order in those days might easily declare would tend “to undo all properties and possessions—finally, to turn all things upside down.”

Of the great mass of rank and wealth, and of the class

of men whose entire little income hung upon a Church-abuse—the benefice-holders, banded by the common tie of interest against reform—Calvin in this dedication speaks as we find all other reformers of the time constantly speaking. They were the great bar to moral progress. “For,” says Calvin, “their belly is their God, their kitchen is their religion; which being taken away, they think that they shall not only be no Christians, but no men: for though some of them do plenteously glut themselves, and other some live with gnawing of poor crusts, yet they live all of one pot, which, without these warming helps, should not only wax cold, but also thoroughly freeze.”

Calvin, having published his “*Institutes of Christianity*,” left Basle for some months. He went to the court of Queen Renée, a good reformer; travelled in Italy, visited Paris; and was returning to Basle through Geneva, when, at Geneva, his course was stopped. Geneva had freed itself, and for a year past, in that town, the Reformed religion had been legalised. Farel was its expounder, with whom, at first, Viret was associated. Viret had been absent many weeks, and Farel, needing help, had been wanting him back sorely. That was the state of the Genevese Church when Calvin was passing through Geneva on his way to Basle. Calvin immediately was invited, and some say compelled by forcible entreaty, to take Viret’s place. He did not need entreating, we may be quite sure. With respect to his book, his ambition had been fulfilled; it had been gratefully adopted by

the French reformers. Before it was published, they were banded together by a common sense of Church-abuse, a common opinion on many leading points of doctrine; but on minor points, for want of any common spokesman, each had formed opinions of his own, and there were many variations in their doctrine. Calvin, having published a detailed confession of faith, gave to all weaker minds a thing to hold by. A pattern was held up, to which the mass conformed; and Calvin knew that he was then in a fair way to become more and more, year by year, what he desired to be, the head to the great body of the French reformers. This was his certain hope when he was requested to officiate with Farel, in Geneva. Geneva was a free town, in which French was spoken, and it was close to the French frontier; he could be safe there, however boldly he might speak; he could feel at home among men speaking his own language, and he could easily and quickly make, from Geneva, expeditions into France, whenever he saw opportunity of doing so with safety and with profit to his cause. Therefore Calvin settled at Geneva, and there dwelt and laboured at the time when Bernard Palissy settled at Saintes.

It is not necessary to dwell more at length on Bernard's years of wandering. It was essential to our proper comprehension of his after life, that we should recal to our minds those points, in the world of which he had experience, by which especially his mind was influenced. This has been done; and now we slip over the period of travel,

and find Bernard Palissy settled at Saintes, full of simplicity and full of power. He has the very pattern-mind of a philosopher, but hitherto he has done nothing, still he is doing nothing—painting pictures, staining glass, and drawing plans.

CHAPTER VII.

PALISSY MARRIED AND SETTLED—THE ENAMELLED
CUP.

HAVING long hovered over France, Bernard Palissy settled at length in the small but not quite insignificant town of Saintes. He spelt it Xaintes, and so did his contemporaries. There he probably was fixed ; because he was not proof, like Paracelsus, against woman's charms. I suppose him to have married at the age of about twenty-nine, in the year 1538. This is the last date which it will be requisite to give upon hypothesis. Henceforth, also, it is fortunate that as the biographic details rise in interest, they will become in many parts authentic and minute.

Palissy, having married, was no longer able to wander as he listed, asking questions, studying the rocks and trees, and living as he could, while he was growing in experience, not very careful for the morrow. He therefore fixed himself in an abode at Saintes, and undertook whatever occupation he could get, as a surveyor, as a

painter, or a glass-painter. His engagements as surveyor usually sprang out of disputes concerning land, formerly a constant source of litigation in most countries. In such disputes the quarrel commonly depended on a question about boundaries, and a plan of the contested property became essential. When such disputes occurred in his own district, it was usually to employ Bernard Palissy in a character similar to that of sworn surveyor; and every little engagement of this nature was a godsend to the household purse. But his supplies came slowly, on the whole; more than he had been used to earn while roving, it was not easy for Palissy to earn when fixed at Saintes: and he had now a wife depending on his labour; children, also, were not tardy of appearance.

In a year or two, if my last date was right, Palissy already had begun to feel that he was wasting power. Thirty or thirty-one years old, young, vigorous, and prompted forward by intense activity of mind, Bernard began to feel that he was capable of better things than a long drudge through life, with no aim higher than to get his bread by meriting the patronage of the nobility, gentry, and the public in general, of the small town of Saintes. It abounded in all the jealousies and scandals which are proper, in all nations, to a district capital. So Bernard sighed for higher occupation, while he earned a slender income for the support of his household, in the first months or years of his establishment at Saintes.

Saintes is the capital of Saintonge, a district which

pretty accurately corresponds to the department of Charente Inferieure. Aunis, Saintonge, and Angoumois, form, at this day, a province. Saintes and Saintonge are connected intimately with our future story; it is, therefore, necessary to have some conception of their character. Saintonge is a district fertile in corn, wine, and fruit; and its fertility was recognised by Cæsar, who relates how certain tribes left their more barren soil for that of the Santones. Saintonge is divided, by the river Charente, into two unequal parts. Upper Saintonge, on the south side of the river, is the larger of the two. It is watered by the Soudre and the Sevigne. Through Lower Saintonge flows the Boutonne. The wide embouchure of the Garonne gives a sea-boundary to Saintonge on the south, in addition to its western coast-line. That portion of the district beyond the Soudre, which is hemmed in between the Soudre and the mouth of the Garonne, was called, in the time of Palissy, the island of Allevert—which is now written Arvert. About the mouth of the Soudre, on the side opposite to Allevert, are the salt-marshes of Marenne; and Marenne also is sometimes called an island. In the sea—a real island—oppose the mouth of the Soudre, is Olleron; and others are adjacent. These places will hereafter frequently be mentioned.* Except that

* Thus, it is said of the monks who brought reform into Saintonge: "Some took to a trade, others kept village-schools; and because the isles of Olleron, of Marepnes, and of Allevert, are remote from the public roads, a certain number of the said monks withdrew into those islands, having found sundry means of living without being known." Palissy, in the *History of the Troubles of Xaintonge*.

from the famous salt-marshes of Marenne, the salt of Saintonge was produced north of the Charente. Saintonge, in the time of Palissy, was thought to produce the best salt in Europe, and was the chief source of salt in France, until it was obtained more abundantly from Brittany. The vintage of the district was manufactured usually into brandy; the town of Saintes is not, indeed, many miles below Cognac; the same river Charente watering the fields of both those towns.

Several towns of Saintonge contained, in Palissy's time, tanneries. The meadows of Saintonge yielded a valuable pasturage, its horses bore the highest character. Saintonge was able also to send saffron to the markets, and its wormwood—the Santonic wormwood—found a way even out of Gaul to Greece and Rome. Dioscorides speaks of it, and tells us that it comes from Gaul, and that "its name is taken from the region of the Santones, in which it grows."* Pliny the Naturalist also speaks of the Santonic wormwood, "so named from a state in Gaul."† The district of Saintonge contains clay good for bricks and pottery. It contains also several mineral springs.‡

The town of Saintes, in which Palissy resided, is built on the banks of the Charente, at the foot of a mountain. The old town, founded by the Romans, and called Medi-

* Book iii., cap. 28.

† Book ii., cap. 37.

‡ It would forestal the narrative, to show, by extracts in a note, what will, I trust, clearly be seen as we go on, that all these leading points in the dead world about him were received into the mind of Palissy, and make part of his life.

olanum, used to stand at some height on the mountain; that was destroyed by the barbarians, upon their road to Spain. Many remains were left, however. Over the new town, built lower down, there looked the ruins of a Roman capitol. The people of Saintes used, and still use, a fine Roman bridge over the Charente, built, it is said, in the reign of Tiberius. A triumphal-arch is raised upon it, which has an illegible Latin inscription on its frieze. Roman monuments abounded. There existed, very perfect, in the time of Palissy (and they are still not indistinct), the ruins of a Roman amphitheatre, situated in a valley, near a suburb of Saintes called St. Eutropius. These ruins are called "The Arches." St. Eutropius is so named from a church which St. Palais (it does not in the least matter who he was) caused to be built over the spot where the remains of St. Eutropius, first Bishop of Saintes, had been discovered. St. Eutropius had been sent out by Pope St. Clement, in the beginning of the tenth century. The church had two choirs and a nave; the remains of the tomb of St. Eutropius were in it years ago—some crumbling stones within an iron railing. Of the scrapings from this tomb, a pinch, taken in white wine for nine successive mornings, was supposed to cure all kinds of fever. There are many quarries about Saintes, and near this suburb of St. Eutropius there is a quarry full of petrifications; there is also in the neighbourhood a line of rock, called "The Rocks," abounding equally in relics of past life.

Saintes itself was a town of narrow, crooked streets,

with low houses, high convent walls, belonging to the Benedictine nuns (ladies of Saintes), abbeys, bad paths, and obstructive gates. There was an old cathedral, dedicated to St. Peter, and said to have been built by Charlemagne. Only the bell-tower now remains, and most of the antiquities in which Saintes used to abound, must be named in the past tense. A great deal of destruction is attributed to the religious struggles, which were carried on in Saintes with an especial fierceness, and of which some records have hereafter to form part of this biography.

Saintes was, in the time of Palissy, an extensive and lucrative bishopric, including more than seven hundred parishes. The episcopal seat of Rochelle was, however, scooped out of it, in the year 1649. •

Saintonge yielded to the king much money in taxes. Of the civil government, which was administered by a seneschal and three bailiffs, within the jurisdiction of the parliament of Bourdeaux, it is not requisite to speak at present.

The house of Palissy appears to have been situated in the outskirts of the town of Saintes; for he tells us that at night he heard the dogs barking on one side, and the owls hooting on the other.* Glass-painting required, perhaps, the use of more fire than could prudently be

* "I have been for several years, when, without the means of covering my furnaces, I was every night at the mercy of the rains and winds, without receiving any help, aid, or consolation, except from the owls that screeched on one side, and the dogs that howled on the other."—*The Artist in Earth*.

permitted in a town, as towns were then built. It is quite possible, however, that Palissy inhabited more houses than one, and did not move towards the outskirts until he commenced experiments in pottery.

Thus labouring for bread among the narrow-minded people of the narrow-streeted town of Saintes, dissatisfied with labour that produced food, and only food, Palissy, conscious of his own strength, hoped that he might yet live to accomplish something better. He had abundant spirit and vivacity. In his darkest hours of evil fortune, he could try like a man to set his friends a-laughing. In the simplicity of his mind, he was at all times full of hope, although unconscious that it was the spiritual sense of power which begot his hopefulness. All that is possible, is certain to the man who wills, if he has wit enough to use a little tact or skill, and a great deal of patience. Palissy had a child upon his arms; land-measuring came only now and then; glass-painting was not attractive; and the inhabitants of Saintes were but a limited population to provide with pictures. The young artist kissed his baby, and buoyed up his wife with his own hopes. There was another baby to kiss, but there was no doubt in his mind about the future.

It was at this time that there was shown to Palissy an elegant cup of Italian manufacture—"an earthen cup," he says, "turned and enamelled with so much beauty, that from that time I entered into controversy with my own thoughts, recalling to mind several suggestions that

some people had made to me in fun, when I was painting portraits. Then, seeing that these were falling out of request in the country where I dwelt, and that glass-painting was also little patronized, I began to think that if I should discover how to make enamels, I could make earthen vessels, and other things, very prettily; because God had gifted me with some knowledge of drawing." Palissy then knew nothing whatever of the art of pottery, and there was no man in the nation who could make enamels. That last fact was the attraction to him. Enamels could be made; there he beheld a specimen. What is possible, is sure to him who wills, if he can use a little skill and a great deal of patience. To be the only man in France able to make enamelled vases, would be to provide handsome support for his wife and children; and to work at the solution of so hard a riddle, would be to provide full occupation for his intellect. So Palissy resolved to make himself a prince among the potters; and, "thereafter," he writes, "regardless of the fact that I had no knowledge of clays, I began to seek for the enamels, as a man gropes in the dark."

CHAPTER VIII.

POTTERY THREE CENTURIES AGO.

HERE it becomes requisite to check the progress of this narrative, and spend some minutes in the labour of dismissing from our minds the familiar ideas which the word "pottery" suggests at the present time. In our bedrooms, at our breakfast-tables, and throughout the day, upon our dining-tables, in our drawing-rooms, and on our mantel-pieces, pottery and porcelain are rarely absent from the sight or touch. It requires, therefore, some effort to recal to mind the rude state of the art of pottery in England or in France three centuries ago. Cups and saucers, as ideas, we must abandon utterly; remembering that Bernard Palissy began to tempt the muse—if we may suppose a muse—of pottery a century before tea came into Europe. Moreover, in those days, if there had been tea, there could have been few tea-services even of Chinese porcelain. It was only during the boyhood of Palissy, in the year 1518, that

the Portuguese had appeared before Canton, and, for their service in destroying the pirates of the Ladrones, obtained leave to establish a settlement at Macao. Thence came, by way of Portugal, the first importations of china-ware into Europe. Porcellana, the Portuguese name given in the East to a cowrie-shell, was thence transferred to Chinese cups, as indicative of their transparent, shell-like texture.*

Porcelain, then, began to be imported as an article of luxury from China, in the times of Palissy. During two centuries afterwards, the Europeans laboured in vain to make it for themselves. It is not likely that by Palissy porcelain had at any time been seen or heard of, up to the day when his mind was prompted into action by the sight of an enamelled cup. That cup, having been made in Italy, of course was composed of an opaque ware, very different from the translucent porcelain.

It is not necessary to dwell here upon the great antiquity of the art of pottery. It arose, early and easily, out of that property of clay which causes it, when in its natural condition, more or less moistened, to be plastic, and when baked, to become more or less hard and coherent. There are many kinds of clay, differing greatly in the degree of hardness which they acquire when burnt, and differing much, also, in their result, according to the degrees of fire to which they are exposed. When we walk

* But while porcelain was adopted in Europe as a generic name for china-ware, in Portuguese it was, and is, specific, meaning no more than a cup; the name for porcelain-ware generally being, in that language, *loca*.

over a clay soil, in wet weather, we may consider clay to be the worst of earths; but setting aside, for the present, its grand uses in the economy of nature—which we shall find Palissy hereafter fully perceiving—to consider that, without clay, there would have been no pottery, is quite sufficient to establish it in our respect. Of clay, as a plastic material, Palissy himself speaks with a just emphasis, at the same time that he unconsciously supplies us with a catalogue of the chief uses of pottery in his own day. “Consider a little,” he says, “how many arts would be useless, if not altogether lost, without the art of treating earth. The refiners of gold and silver must cease from their work, for they could do nothing without furnaces and earthen vessels; inasmuch as no stone, or other matter, could be found, which might serve to contain melting metals, if there were no vessels of earth.

“*Item.*—The glass-workers must cease from their work, for they have no means of melting the ingredients of their glass, if not in vessels of earth. The goldsmiths, founders, all melting, of whatever sort or kind it may be, would be at an end; and there would not one be found who could dispense with clay. Look, also, at the forges of the farriers and locksmiths, and you will see that all the said forges are made of bricks; for if they were of stone, they would be soon consumed. Look at all the furnaces; you will find they are made of earth; even those who labour upon earths use earthen furnaces, as tilers, brickmakers, and potters: in short, there is no stone, mineral, or other

matter, which could serve for the building of a furnace for glass, lime, or any of the beforenamed purposes, which would last for any length of time. You see, also, how useful common earthen vessels are to the community—you see, also, how great is the utility of earth for the covering of houses. You know that, in many regions, they know nothing of slate, and have no other covering than tiles: how great do you suppose to be the utility of earth in making conduits from our fountains? It is well known that the water which flows through earthen pipes, is much better and wholesomer than that which has been brought through leaden channels. How many towns are there built of bricks, inasmuch as there are no means of getting stones to build them with?"

Coarse jars and pipkins, and such humble specimens of pottery as are alluded to by Palissy, when he points out "how useful common earthen vessels are to the community," were the chief products of French art in the year 1540. They were not quite the sole results; for Rabelais, a contemporary of Palissy, in his *Panurge*, first printed in 1546, speaks of the hard pottery or stoneware of Beauvais—its "*Poteries Azurées*"—as very celebrated, and fit to be presented to the Kings of France.*

* The only French writer on Pottery in the time of Palissy, was Palissy himself, from whom we shall gather incidentally, hereafter, many details. Most of the facts in this chapter are derived from Mr. Marryat's richly illustrated "*Collections towards a History of Pottery and Porcelain in the 15th, 16th, 17th, and 18th centuries*," London, 1850. In speaking of the stoneware of Beauvais, Mr. Marryat has

There is a common division of pottery into hard and soft. Hard pottery cannot be scratched with a knife. In the year 1540 there was no hard pottery made in France, except the stoneware of Beauvais, and perhaps a little stoneware in some other places. Soft pottery can be scratched with a knife. It is composed of a clay, sand, and lime. The admixture of sand and other materials with clay, to modify the result of baking, was an obvious contrivance, and is found to have been resorted to even in very rude states of society. The woman among the aborigines of Louisiana mixed with clay pounded shells. Then having shaped her material into a cylinder, of size proportioned to the vessel she proposed to make, she made a hollow in the centre, balanced the clay by this on her wet thumb, and twirled it swiftly round,—shaping its edges with her other hand, and twirling still,—using the principle, without the apparatus, of the potter's-wheel. The well-formed vessels, when a batch was ready, were then rudely baked over a fire. The shells employed by such a labourer supplied the ingredient of lime, which, mixed with clay and sand, is used in the European manufacture of soft pottery.

Pottery covered with glaze, or enamel, is called Fay-

erred in assigning the date of the third book of Rabelais to the year 1500, and of course, therefore, errs in saying that the reputation of the Beauvais ware continued from the time of Rabelais to the time of Francis I. Rabelais wrote in the time of Francis I., and his chief patron was the same Jean du Bellay, Bishop of Paris, whom we lately found heading the procession of the 12th of February. Rabelais died in 1553, aged seventy.

ence.* We have not now to deal with the fame of ancient potters' work, and the Etruscan vases which competed in price with gold and silver vases of their own size, in Rome under Augustus. The dark ages, the transition period of history, shut us out from them. If, therefore, the ancients employed glaze, that fact does not concern us, in the year 1540. The revived use of glaze among the moderns is alike beyond our limits. In the time of Palissy, whatever polish was not proper to the pottery itself, was given by a coating of enamel.

The "earthen cup, turned and enamelled with so much beauty," which had given a new direction to the thoughts of Palissy, must have been of Italian manufacture. Enamelled pottery could, at that time, scarcely have come from any other country. Except that Hirschvögel, an artisan of Nuremberg, had brought from Italy, in 1507, and practised in his native town the art of an enameller, the practice ceasing at his death, there was no enamelled ware produced in Europe out of Italy.

The labours of Palissy and their results were altogether of an independent character. Whatever he introduced into France, he introduced out of his own mind. The first introduction of the manufacture of enamelled pottery into France, by artists from Italy, took place in the Nivernois, in the year 1565. An Italian workman is said to have remarked to the duke (Louis Gonzaga) the fitness

* Perhaps from the little town (now village) of Faïence, in the department of the Var, which, so early as the sixth century, is supposed to have been famous for glazed pottery.

of the materials existing naturally in the district, and in that way to have given a first impulse to the undertaking. The enamelled cup, therefore, which Palissy admired in the year 1540, had been imported into France from Italy.

In Italy the modern history of pottery begins. The men of Pisa, once upon a time, zealous against infidels,—whom there was need to combat, if not for their religious errors, yet at any rate for their political aggressions,—the Pisans undertook to clear all Mussulman corsairs out of the Tyrrhene sea. There was at that time an infidel King of Majorca, named Nazaredeck, who busied himself cruelly about the coasts of France and Italy. Twenty thousand Christians were said to be confined in the dungeons of this old King of Minorca: so pure a taste for playing gaoler was almost without a parallel until we got one in a modern King of Naples. In the year 1113, on the festival of Easter, the people of Pisa were exhorted by their archbishop to open the prisons of their Christian brethren, and to free them from the power of the infidel. The archbishop, in fact, preached a crusade with much success, and the Crusaders set sail in the month of August, from Pisa for Majorca. But though, no doubt, they were good soldiers, they were exceedingly bad sailors, so they did not get to Iviça till April in the succeeding year. They took that island, and then passed on to Majorca, where they besieged Majorca the town, and took it about Easter, 1115, after a fierce struggle of a year's duration. Nazaredeck, the infidel king, was killed: his heir-apparent was

made prisoner, and carried with great spoil and booty into Pisa. Among the spoil were many plates of Moorish pottery, which the Pisans stuck into church-walls as ornaments and trophies. Afterwards, it became a custom at Pisa, with warriors who came home from crusades, and stopped at Majorca by the way, to bring with them fragments of this painted earthenware. They were tokens of a triumph over the Philistines. Such Majorca plates are, therefore, to be seen embedded in the walls of several old Pisan churches.

For two hundred years this Moorish pottery was regarded only as a thing to be admired for its beauty, and to be venerated as a religious symbol; it was not till the beginning of the fourteenth century that the Italians began to make an imitative ware, named after the old source of painted pottery, Majolica. The early specimens of Italian manufacture were painted with arabesque patterns, yellow and green upon a blue ground, simple copies from the Moorish. Under the house of Sforza the art was improved, and in 1450 the manufacture of Pesaro had attained great excellence.

The Italian discoverer of enamel was the Florentine sculptor, Luca della Robbia, who was born in 1400, and died in 1481. As Luca della Robbia, in the History of Pottery, presents many points of curious analogy with Palissy, it will be well to dwell on some points of his life. Palissy was much more than a potter; but it is of pottery that we are speaking now, and the invention of enamel.

A few points in the life of Luca della Robbia, as told in the words of Vasari, are very interesting in themselves, to us who study the career of Palissy, and not the less so, when we remember that Vasari wrote during the same years occupied by Palissy at Saintes in working out the hint supplied by the enamelled cup.

Luca della Robbia, Vasari* says, was “carefully reared and educated until he could not only read and write, but, according to the custom of most Florentines, had learned to cast accounts so far as he might require them.” Placed then to learn the art of a goldsmith, and having learned to draw and model in wax, he aspired to work in bronze and marble. “In these also he succeeded tolerably well, and this caused him altogether to abandon his trade of a goldsmith, and give himself up entirely to sculpture, in-somuch that he did nothing but work with his chisel all day, and by night he practised himself in drawing; and this he did with so much zeal, that when his feet were often frozen with cold in the night time, he kept them in a basket of shavings to warm them, that he might not be compelled to discontinue his drawings. Nor am I in the least astonished at this, since no man ever becomes distinguished in any art whatsoever, who does not early begin to acquire the power of supporting heat, cold, hunger, thirst, and other discomforts; wherefore,” Vasari says, “those persons deceive themselves altogether who suppose

* Where I quote Vasari, it is from the very accessible translation by Mrs. Foster, in “Bohn’s Standard Library.”

that while taking their ease, and surrounded by all the enjoyments of the world, they may still attain to honourable distinction—for it is not by sleeping, but by waking, watching, and labouring continually, that proficiency is attained and reputation acquired.”

To the labours of Bernard Palissy this preface applies even more emphatically than to the labours of Luca della Robbia. Vasari, then, having detailed Luca's career as a sculptor, and the excellence of his works, goes on to relate how marble and bronze were to Luca very much what we have seen glass-painting and land-measuring to be to Bernard. “When, at the conclusion of these works, the master made up the reckoning of what he had received, and compared this with the time he had expended in their production, he perceived that he had made but small gains, and that the labour had been excessive; he determined, therefore, to abandon marble and bronze, resolving to try whether he could not derive a more profitable return from some other source. Wherefore, reflecting that it cost but little trouble to work in clay, which is easily managed, and that only one thing was required, namely, to find some method by which the work in that material should be rendered durable, he considered and cogitated with so much goodwill on this subject, that he finally discovered the means of defending such productions from the injuries of time. And the matter was on this wise: after having made experiments innumerable, Luca found, that if he covered his figures with a coating of enamel, formed from

the mixture of tin, litharge, antimony, and other minerals and mixtures, carefully prepared by the action of fire, in a furnace made for the purpose, the desired effect was produced to perfection, and that an almost eternal durability might thus be secured to works in clay. For this process then, Luca, as being its inventor, received the highest praise; and, indeed, all future ages will be indebted to him for the same."

Vasari, having then told his readers of some works in this enamelled terra cotta, adds that "The master, meanwhile, was not satisfied with his remarkable, useful, and charming invention, which is more particularly valuable for places liable to damp, or unsuited from other causes, for paintings, but still continued seeking something more; and instead of making his terra cotta figures simply white, he added the further invention of giving them colour, to the astonishment and delight of all who beheld them. Among the first who gave Luca della Robbia commissions to execute works of this description, was the magnificent Piero di Cosmo de' Medici, who caused him to decorate a small study, built by his father Cosmo, in his palace, with figures in this coloured earth. * * And it is certainly much to be admired that, although this work was then extremely difficult, numberless precautions and great knowledge being required in the burning of the clay, yet Luca completed the whole with such perfect success, that the ornaments both of the ceiling and pavement appear to be made not of many pieces, but of one only. The same

of these works having spread, not only throughout Italy, but over all Europe, there were so many persons desirous of possessing them, that the Florentine merchants kept Luca della Robbia continually at this labour to his great profit : they then despatched the products all over the world." Luca then took his two brothers, Ottaviano and Agostino, to assist him, and " they sent many specimens of their art into France and Spain." Passing over other notices of the works of Luca, who began to attempt pictures upon level surfaces of enamelled earth, we will conclude with one more extract from Vasari: " For Messer Benozzo Federighi, Bishop of Fiesole, Luca della Robbia erected a sepulchre of marble, on which he placed the recumbent figure of Federigo, taken from Nature, with three half-length figures beside; and between the columns which adorn this work, the master depicted garlands with clusters of fruit and foliage, so lifelike and natural, that the pencil could produce nothing better in oil-painting. This work is, of a truth, most rare and wonderful; the lights and shadows having been managed so admirably, that one can scarcely imagine it possible to produce such effects in works that have to be completed by the action of fire. And if this artist had been accorded longer life" (eighty-one years was a tolerable thread), " many other remarkable works would probably have proceeded from his hands, since, but a short time before his death, he had begun to paint figures and historical representations on a level surface."

Luca della Robbia died about thirty years before the birth of Palissy, that is to say, in the year 1481. In 1450, as has before been said, the manufacture of Majolica at Pesaro had attained high excellence. It was patronised by the Dukes of Urbino for two hundred years. Raffaelle, born at Urbino in 1483, and dying in 1520, provided a new name for the Majolica. It came to be called "Raffaelle ware," under the idea that many of its rich ornaments were painted from his designs. The scholars of Raffaelle did, indeed, furnish designs, and supplied them sometimes from drawings left by their great master. Compositions by Raffaelle were also often copied upon vessels of Majolica. This was being done in the year 1540, twenty years after Raffaelle's death. The year 1540 is the date assigned to the first specimens of the finest Italian Majolica. It was in the year 1540, when such things were imported into France at a high price from Italy, that there was shown to Palissy "an earthen cup, turned and enamelled with so much beauty, that from that time," he says, in the words already quoted, "he entered into controversy with his own thoughts, and began to think that if he should discover how to make enamels, he could make earthen vessels and other things very prettily, because God had gifted him with some knowledge of drawing." And, thereafter, regardless of the fact that he had no knowledge of clays, he began to seek for the enamels as a man gropes in the dark.

CHAPTER IX.

PALISSY RESOLVES TO CONQUER FOR HIMSELF NEW GROUND—THE FIRST WAR FOR THE DISCOVERY OF WHITE ENAMEL.

BENT upon intellectual conquest, Bernard Palissy set forward with energy upon his new career. The man is to be envied who has intellect enough to strike out boldly, with a reasonable purpose, through the brushwood, from the beaten track. With courage to endure all falls and bruises incidental to a traveller on rough and unseen ground, not too particular about that ounce of wool which makes the difference between a whole coat and a ragged one, not angered by the wise men on the highway who shrug up their shoulders, or the ignorant who laugh and hoot at him, the man who makes his own road will enjoy sharp exercise and have a pleasant journey. No bodily discomfort can press down as pain upon the buoyant sense of spiritual freedom.

But men link women to their fortunes. Whoso with

lusty mind desires to fight beyond the common limits of his time, and stand on ground through which there is to be no road for the next fifty, hundred, or two hundred years, should take good heed what partner he selects to share his scratches and to see him made into a common jest. She must either have a strength of intellect accorded to few men and women in a generation, or a strength of love almost as rare. Palissy married as a glass-painter—a clever man, able in two or three odd ways to add to his resources, and maintain a household in a lowly sphere of life. His wife, joining him out of the same rank in society, was doubtless quite prepared to bear with him, and to console him under all those seasons of inevitable poverty which might arise from dearth of occupation. But could she have imagined that a man so clever would neglect his occupation, let his earnings become less, and out of that less would buy pots only to break them?

“Without having heard,” says Palissy, “of what materials the said enamels were composed, I pounded, in those days, all the substances which I could suppose likely to make anything; and having pounded and ground them, I bought a quantity of earthen pots, and after having broken them in pieces, I put some of the materials that I had ground upon them, and having marked them, I set apart in writing what drugs I had put upon each, as a memorandum; then, having made a furnace to my fancy, I set the fragments down to bake.”

The purchase of the drugs, the buying of the pots, the

building of the furnace, and the loss of time from customary occupation, made, of course, a very serious impression on the household purse. The wife cared naturally more about her children than about the best of white enamels, but she doubtless had consented with not much reluctance to the present sacrifices. It seemed to be quite true that if Bernard discovered the enamel, he would make them rich: how difficult the task might be, it was impossible to foresee: of course it would be difficult, but then Bernard was clever. Let the old funds fall, therefore, since there really was hope of a new and rich investment.

So the old funds fell. Ordinary work was to be done only at the call of strict necessity. The enamel when discovered—if discovered—would be useless except as a covering to ornamental pottery, and Palissy would have to learn how to make that. He set himself to rival the enamelled cups of Italy, when he would have failed in an attempt to make the roughest pipkin. He knew nothing of clay, and he had never even seen the inside of a pottery. He “had never seen earth baked.” But what of that? Enamelled cups were made in Italy; why should they not be made also in France?

Household cares bound Palissy to home. It was requisite to abide by and support his family. Had he been free, he could have wandered among potters, as he had already wandered among alchemists. He could have acquired all that was already known of pottery in France, and started

from that more advanced point on his journey through the undiscovered region. But the discovered was to him unknown. From absolute ignorance, to a point far beyond the knowledge of his time, he was to feel his way on without a teacher.

“ I know,” says Theory to him in one of his own dialogues,* “ that you endured much poverty and pain in searching, but it will not be so with me; for that which gave you so much to endure, was the fact that you were entrusted with a wife and children. Then, while beforehand you possessed no knowledge, and were forced to guess your way, through this you were unable to quit your household to go and learn the art in some shop, and you had no means of engaging servants who might help you somewhat to discover the right way. These drawbacks were the cause of your checks and miseries; but it will not be so with me, because, according to your promise, you will tell me in writing all the means of obviating the losses and hazards of the furnace; also, the materials of which your enamels are made, and their proportions, measures, and composition. You doing so, why shall I not make pretty things without being in danger of any loss, provided that your losses serve as an example to protect and guide me in the exercising of your art?”

The first experiment was the first loss. Palissy had made a furnace in his house, which he thought likely to be suitable; and he had strewed upon many broken bits

* The Artist in Earth.

of pottery many chemical mixtures, which he then proposed to melt at furnace-heat. It was his hope, that of all the mixtures one or two might run over the pottery, when melted, in a form which would convey to him some hint of the composition of the white enamel. He had been told that white enamel was the basis of all others, and sought only for that. "I set the fragments down to bake," he says, "that I might see whether my drugs were able to produce some whitish colour: for I sought only after white enamel, because I had heard it said that white enamel was the basis of all others." In the selection of his chemical ingredients, he had more than chance to guide him. It is to be remembered, that he had been familiar for many years with such metallic colours as are used in glass-painting, and to a certain extent with their behaviour when exposed to fire. Some facts, therefore, he had to suggest hints to him in the mixing of those chemicals which he distributed upon the bits of earthenware, and put into his furnace, each duly marked, and a memorandum of the exact contents of each against a corresponding mark set down in writing.

The plan of the experiment was promising. The words of Palissy himself will best relate and account for its repeated failure. "Then," he says, "because I had never seen earth baked, nor could I tell by what degree of heat the said enamel should be melted, it was impossible for me to get any result in this way, though my chemicals should have been right; because, at one time, the mass might have

been heated too much—at another time, too little; and when the said materials were baked too little, or burnt, I could not at all tell the reason why I met with no success, but would throw the blame on the materials, which sometimes, perhaps, were the right ones, or at least, could have afforded me some hint for the accomplishment of my intentions, if I had been able to manage the fire in the way that my materials required. But again, in working thus, I committed a fault still grosser than that above named; for in putting my trial-pieces in the furnace, I arranged them without consideration; so that if the materials had been the best in the world, and the fire also the fittest, it was impossible for any good result to follow. Thus, having blundered several times at a great expense, and through much labour, I was every day pounding and grinding new materials, and constructing new furnaces, which cost much money, and consumed my wood and my time.”

Through many successive months Palissy persevered in these experiments. The building, destroying, and rebuilding of furnaces, in which the chemicals he bought with household money were always only burned and spoiled, was anxious labour. Wood was then the fuel used throughout the country. It was not too cheap; and Bernard had to take, not only food out of his kettle, but also wood from under it, when he bought drugs and burnt them in his furnace-fire. “He fooled away,” he tells us, in this manner, “several years.”—“With sorrow and sighs,” he adds—for the bread of his children lessened—he was

weighed down by domestic care. This time was not, however, wasted. When men grope in the dark, it is by touching on all sides upon what they do not seek that they at length find what they desire. Palissy knew this well; and though his heart was troubled for the souls that waited on his industry, he steadily continued groping, and employed his old arts only for the earning of a bare subsistence, and to help him in the purchase of his chemicals. Perhaps he had already incurred some debt.

His narrow means were quite unable to support a full continuance of these experiments. If he would not be ruined long before he could attain his purpose, he must work for its attainment with economy. The most expensive part of his system, both as it regarded time and money, had been the building and rebuilding of his furnaces, the watching them, and feeding them with fuel from his kitchen. "Therefore," says Palissy, "when I had fooled away several years thus imprudently, with sorrow and sighs, because I could not at all arrive at my intention, and remembering the money spent, I resolved, in order to avoid such large expenditure, to send the chemicals that I would test to the kiln of some potter; and having settled this within my mind, I purchased afresh several earthen vessels, and having broken them in pieces, as was my custom, I covered three or four hundred of the fragments with enamel, and sent them to a pottery distant a league and a half from my dwelling, with a request to the potters that they would please to permit those trials

to be baked within some of their vessels: this they did willingly." The man who bought and broke so many pots was a good customer to potters. He was a proper man to be obliged. Probably he paid also some money for his privilege.

With how much trepidation Palissy watched the departure of his first batch of three or four hundred potshards, with a little powder sprinkled upon each,—with how much fear lest the powders be all spilt upon the way, he gave his last directions,—we may easily imagine. The arrival of the fragments in the absence of their owner was, no doubt, a great joke at the pottery. The potters, however, baked them with all due solemnity; and before the appointed time Palissy was present with a palpitating heart to wait the drawing of the batch. "But when they had baked their batch," he says, "and came to take out my trial-pieces, I received nothing but shame and loss, because they turned out good for nothing; for the fire used by those potters was not hot enough, and my trials were not put into the furnace in the required manner, and according to my science. And because I had at that time no knowledge of the reason why my experiments had not succeeded, I threw the blame (as I before said) on my materials; and——" And what? There was but one course to pursue—"beginning afresh." The man can achieve nothing who despairs. "And beginning afresh, I made a number of new compounds, and sent them to the same potters, to do with as before; so I continued to do several

times, always with great cost, loss of time, confusion, and sorrow."

But the family of Palissy kept pace in increase with his perplexities. The beginning of his groping was not fortunate; in his war against difficulty he was worsted for the present, although, of course, quite unsubdued. The private furnace and the potter's furnace, both had failed, and had together wasted terribly his home resources, while the home wants had increased.

When we are foiled repeatedly in an endeavour to adjust some point exactly to our wish, and our reiterated attempts, at last, have brought our wits to "confusion and sorrow," it is a common and wise practice to cease from effort for a while—to think no more, if possible, upon the subject which has occupied our thoughts too much. Then when, after an interval of rest, we come back to the old knot, it happens now and then that we untie it easily. Considering this matter, and perceiving well how much his family required that he should do a little steady work on their behalf, Bernard resolved to close this his first struggle for the discovery of white enamel. With his own charming simplicity, Palissy himself tells us: "When I saw that I could not at all, in this way, come at my intention, I took relaxation for a time, occupying myself in my art of painting and glass-working, and comported myself as if I were not zealous to dive any more into the secret of enamels."

CHAPTER X.

A TRUCE: THE GABELLE AND THE SALT-MARSHES OF SAINTONGE.

PROSPERITY soon came to sit in Bernard's chimney-corner. If his wife had grieved over the wasting of their home resources during that hard struggle which appeared so profitless in its result, she had her consolation now. The tide in their affairs turned rapidly. Palissy "comported himself as if he were not zealous to dive any more into the secret of enamels," and prepared heartily to resume those occupations by which he had formerly obtained a living. A bright flood of sunshine suddenly poured in to chase the gloom out of his dwelling. The time of Palissy was soon completely taken up with that which he had considered at all times the most profitable of his occupations. In consequence of an edict given from Saint Germain-en-Laye in May of the year 1543, it became necessary that the islands of Saintonge and the district surrounding the salt-marshes should be surveyed. For

this task there was no man in the diocese more competent than Bernard Palissy. Accordingly, as he tells us—having suspended his war for the discovery of white enamel—“some days afterwards there arrived certain commissaries, deputed by the king to establish the gabelle in the district of Xaintonge, who appointed me to map the islands and the country surrounding all the salt-marshes in our part of the world.”

The Gabelle is a familiar word, connected intimately with a very well-known story. Nevertheless, it may be advisable, before we pass on to the illustration of this period in the life of Palissy, to note six or eight facts concerning that famous impost in the days when it was young, and ascertain what aspect a gabelle presented in the year 1543 to the rough people of Saintonge.

Gabelle, meaning a tax, is a word common to many languages; it is by no means peculiarly French, nor has its original meaning in France, or any other country, been confined to taxes levied upon salt.* Formerly there were

* The word is in Italian, *gabello*; in Spanish, *gabela*; in German—used only as a plural, and in certain districts—*die Gabellen*. In English, it used to exist as *gabel*. “The gabels of Naples,” says Addison, “are very high on oil, wine, and tobacco.”—“This may be done,” says Bishop Taylor (*Diss. from Popery*, iii., § 3) “if he impose new gabels or imposts on his subjects.” (These authorities I copy from an English dictionary.) The word is ancient. We derived it from the Anglo-Saxon *gafel*, a tribute; which is from *gifan*, the root of our word “to give.” *Gabhail*, in Gaelic, means a tenure—a thing taken—being the noun to the verb *gabh*, to require or take possession of. Commonly, the word is traced down to a Hebrew root, *gab*, which is said by one to mean any kind of tribute; by another, to mean a present. I greatly

gabelles in France on wine, on draperies, on cattle; six years after the date which we have now reached, and in the time of Palissy, an edict of Henry II., dated September 10, speaks of a gabelle on drugs and spices. There was also, among others, a gabelle on salt; and for the tax on this commodity, by slow degrees, the name gabelle, already in Palissy's time, was beginning to be used in France as a specific term.

It is of course only as a tax on salt that the gabelle concerns this history. There was no salt-tax at all under French kings of the first and second line. Salt-makers, on the contrary, were somewhat favoured. Charlemagne reserved to himself the task of personally settling their disputes. The seigneurs of the ninth century exercised, of course, a little profitable jurisdiction over vessels laden with salt on their domains, as in Lorraine and Franche Comté; but royal rights were not at that time in existence.

A trifling salt-tax began to appear here and there—probably not very long after the establishment, by Hugh

distrust Hebrew roots, because, when any one adduces them and errs, if he be a general authority at all respectable, his error is incessantly repeated, with few chances of detection. My own knowledge of Hebrew stops at the alphabet; but that enables me to look into a lexicon, and find (by Gesenius) that the ordinary Hebrew words for tribute are by no means gab; and that the only thing which answers to the common statement is an unused root of Arabic origin, which means, chiefly, to collect water, and, in a secondary sense, to collect tribute. I find reference also for the origin of gabelle to the Arabic cabala, which is said to mean "receipt" of anything. Perhaps it does. I give these illustrations, careless of any theory, simply to show how very far the word is from being purely French.

Capet, of the third race of kings. Immunity from a gabelle on salt is found to occur among the privileges given by Louis IX. (Saint Louis) to the town of Aigues-mortes,* and he was then confirming privileges granted in 1079 by Philip the First.

The first decree that has been found having direct reference to a gabelle on salt, speaks of it as a tax already existing. It belongs to the reign of Philip V., who therefore commonly receives the credit of having been the inventor of one of the most oppressive taxes against which a civilised nation ever has had reason to rebel. The first mention of it is already ominous. The royal order bears date February 25, 1318, and his majesty therein, "since it had come to his knowledge that the gabelle on salt gave much displeasure to his people," summoned his prelates, barons, and so forth, to talk over that and other matters.

The tax at that time—like our modern income-tax—professed to be only temporary; but the people feared that it would be permanently fastened on their backs. At the council which he had convoked, King Philip declared that he was quite sincere in wishing to remove the salt-tax as soon as possible, and that he would gladly remove it on

* "*Sed neque gabellæ salis, seu alterius marcimonii, possint ibi fieri contra homines villæ.*" For the date and nature of any edicts, &c., concerning the gabelle mentioned in the text, I am indebted to either the commercial department of the great *Encyclopédie*, or to the notes and illustrations added by MM. Faujas de St. Fond and Gobet to the quarto edition (1777) of the works of Palissy.

the instant, if better means could be devised by any one for meeting the expenses of his wars. The tax was then a small one, of two deniers upon the pound.

The next king, Philip VI. (of Valois), was compelled, by his struggles with the English, to increase the tax. On the 20th of March, 1342, he established a system for supervision and storage of the salt, and appointed officers of the gabelle. The tax was doubled, and became four deniers upon the pound; but it was not to be perpetual. In 1350 salt is found to be included among free articles of commerce.

In 1355, the successor of Philip of Valois, John II. of France, imposed a gabelle on salt, and again doubled the tax, so that it then rose to eight deniers upon the pound. The more the people had to pay, the more they grumbled. This tax, therefore, perished ignominiously in three months, a less obnoxious measure being substituted. But John having been soon afterwards captured by the English, it became necessary to make extraordinary levies for his ransom. In 1358, the states met at Compiègne re-established the gabelle; it was extended in 1359 over some districts previously privileged, and still further extended in 1360. It was decreed that storehouses should be established in district towns for the more efficient levying of the royal rights, and that in places without storehouses the king should receive one-fifth of the selling price. In 1363, the gabelle was so strict that payment was enforced

from fishermen for salt used in salting the fish they caught, and from dwellers on the marshes for salt used in their own families. Preventive officers were on the watch for all salt which changed hands without paying the king his share of the purchase-money; such salt was confiscated, heavy penalties were levied on offenders, and other precautions against fraud were established of a kind not likely to be popular. He who had salt to sell must take it to the government storehouse. There it would be sold for him by the government officials when his turn should come. Each storehouse was locked with three keys; the government controller had one, the owner of the salt another, and a notary kept the third. To avoid any collusion, storekeepers and notaries were forbidden to hold social intercourse with salt-merchants, or to receive presents or communications from them. Whether it was in consequence or in spite of these immense precautions I will not attempt to decide, but certainly the king found himself defrauded of a very large portion indeed of the gabelle he claimed.

In the year 1380, Charles VI., being pressed sorely by his subjects, abolished the salt-tax. In the year 1382, having quenched the tax-hating Parisians by force of arms, he restored the gabelle on salt, which thenceforward continued unrepealed for centuries.

In Saintonge, in the year 1388, the seller paid as tax half the price obtained for his salt on a first sale; the

same salt, whenever it was sold again, paid five sols on the pound. They who conveyed untaxed salt were liable for the offence with goods and body.

We may come now to the century with which we are especially concerned. Royalty having been greatly cheated of the dues it had thought prudent to exact on salt, found it necessary, between the years 1500 and 1508, to issue ordinances forbidding individuals to acquire exclusive right of supplying local storehouses, regulating the order in which sales should take place, and other matters. In June, 1517, the same king who still reigned in the year 1543, and under whom Palissy received his commission to survey the marshes of his neighbourhood—Francis the First—ordered that storekeepers and controllers, having charge of local storehouses for salt, should keep a register of all the people in their district by whom salt was to be bought, arranged according to their parishes. The collectors of the impost—elected by the parishes—were ordered to transmit to the storekeepers and controllers a duplicate list of the names and surnames of all the inhabitants in each parish, the number in each family, and the amount of tax assigned to it. For, whereas it is a common consequence of taxes upon articles of necessary consumption to reduce the quantity consumed, it was resolved that this gabelle should be held free from any inconvenience of that nature. The head of every family was informed how much salt the king wished him to use every year.

The storekeepers and controllers* were ordered by this edict of Francis I. to make domiciliary visits in each of their parishes; and if they detected any one who did not procure salt from the appointed district storehouse, or did not procure the quantity proportioned to his wealth, or to the number of his family and household, the defaulter so detected was to be condemned to heavy penalties.

Up to the period of this edict, and beyond it to the year 1541, salt in the storehouses was sold for the merchants by government officials, who retained the taxes and paid over the balance to its owners. In 1541, it being found that the most stringent laws remained still powerless to prevent extensive fraud, the plan of tax-gathering was altered. Francis caused an estimate to be made of the quantity of salt yearly producible in the marshes of Languedoc, Guienne, and Bretagne. This, it will be observed, took place two years before Bernard Palissy received his commission to survey the marshes of Saintonge. It was decreed that salt should thenceforward pay tax as it was taken from the marshes. Francis hoped thus, by forestalling the opportunities of fraud, to raise a larger tax at less cost to the people. This edict abolished storehouses and all their officers; but it raised up a new set of conser-

* The controller was the "counter of the roll" of duty payers. Since tax-paying was of old, even more than it is now, an acknowledgment of duty over which men growl, we get a word out of the oppressive imposts of the good old times, when we say that a person is controlled, and mean that he is brought unwillingly into subjection.

vators, controllers, guards, measurers, &c., and it set a band of spies about the salt-marshes. The merchant having paid his tax, and obtained a permit in which his name was written with the quantity and price of salt and receipt for the gabelle, might go into the market when he pleased. In the marshes of Saintonge, the right of gabelle was equal to the market price of the salt itself; the market price being fixed for the traders every month by the conservator, the attorney for the king, guards, and controllers. The price of salt, therefore, was doubled to the public as it issued from the marshes. Having once escaped into the country, it had of course to be sold and resold in the towns and villages. Every time it was sold it paid a tax. This tax was no less than a quarter of the price obtained on each occasion. Upon each fresh sale, therefore, by which the original mass of salt brought from the marshes was dispersed among retailers, its price augmented terribly; and when it got into the lanes and villages, it was precisely to the poorest people in the land that the salt had to be sold at its highest artificial price. No sales were allowed in any place where there were not officers provided to enforce the payment of "the king's quarter."

But with all this reckless energy of taxation, difficulties and diversities and frauds still perplexed the tax-receiver. In the very next year, 1542, Francis was altering his plans; and in April, lowering the home tax, in consideration that he meant thenceforward to levy also upon foreigners. He ordered, in fact, one uniform tax to be

levied on all salt sold or bartered at the *salines* and marshes of Bretagne, Poitou, Saintonge, the town and government of Rochelle, Guienne, Picardy, Normandy, Languedoc, Provence, Dauphiné, and other provinces and places of the kingdom, "with whatever persons it might be, his subjects or others, excepting none."

The taxation was then obviously mad. The salt merchants and proprietors of marshes humbly represented that if salt for exportation was to pay gabelle, there would be no salt exported, so the king would gain nothing, while their commerce would be lost; the same law, if not repealed, put a complete stop to the fisheries. This having been made clear to the royal comprehension, there was a new decree made on the 29th of May, 1543. A small tax was imposed, instead of the gabelle, on salt taken by foreigners. The fishers of Saintonge, &c., were freed from the gabelle for salt taken from the marsh for use in their own trade. The proprietors of marshes residing on the spot, or within ten leagues of it, were honoured with permission to retain a fixed quantity of their own salt untaxed for domestic use. The inhabitants of Bretagne were exempted from gabelle on salt used for their own consumption. The gabelle, which had been reduced with the design of making foreigners enjoy a share of it, had again to be raised at home; and leave was given, when the whole amount of salt-tax payable by any one person was high, that it should be paid in four equal instalments. It was in this decree that for the securing of the rights of

gabelle in Saintonge a survey of that district was commanded. The conservator of Saintonge, governor of Rochelle, with his notary, were established for the first time at Saintes, and Bernard Palissy received then his commission to prepare a map.

I may add, that in the same year, 1543, the old system of district storehouses was re-established, and officers appointed in the old way to conduct the sales. How the people of Saintonge—who were not of the civillest—liked these arrangements, will be seen as we pursue the narrative; to which we now return.

While we are contemplating the first struggles of Bernard Palissy towards the discovery of white enamel, and noting some of the embarrassments occasioned by his poverty, we must not omit to consider that his energetic efforts to dive into one secret of art did not suffice to fill or satisfy his mind. Bernard was too good an economist to spend a life on any one idea. His quick eye and shrewd wit were ever busy on the mysteries of Nature. Ignorant man as he was—happily ignorant—in all the learning of the schools, he had observed the chemists and the schoolmen quite enough to see that, as naturalists, they were all lost in a wilderness of theory. Palissy being gifted with the perfect temper of a naturalist—being, in the words of Buffon before quoted, “so great a naturalist as Nature only can produce”—with wonderful simplicity and strength of mind (qualities essentially allied) devoted himself wholly to experiment and observation. With a mind of

the finest philosophic quality, unprejudiced by any theory, Palissy observed minutely all the ways of Nature, reasoned upon them with natural vigour, and in those matters upon which he reasoned thus, he in the end outstripped by a century or two the knowledge of his contemporaries. At this stage of our narrative we must not lose sight of the fact that Palissy, while he was searching for the white enamel, and while he was measuring the marshes of Saintonge, was at the same time watching assiduously the ways of Nature, and reasoning upon her mysteries with patient care.

Of the profitable task assigned to him by the commissioners of the gabelle, Palissy has left us some memorial in an account of the salt-marshes of Saintonge. The subject of salt seems to have been one of the first which had arrested his attention as a naturalist; and as, in stating his opinions about it, he draws frequent illustration from experience acquired during his early travels, there is good reason to suppose that in the year 1543, at which our narrative now stands, Palissy had already arrived at some of those conclusions which he afterwards developed in his writings. Since he himself takes care to place before his account of the salt-marshes* his theory concerning salts,† it may be

* In an article, *Du Sel Commun*. None of the treatises by Palissy ever exceed the length of an article in one of our quarterly reviews, or volumes of philosophical transactions. When he had written six or eight, he published them.

† *Des Sels Divers*. This and the treatise upon common salt are not contained in the selection from his writings added to the present volumes.

advisable, before we pass to his survey of the salt-marshes, to indicate, by a few sentences, how far his unassisted wit was taking him beyond the knowledge of his day. Remembering that he lived when there were said to be four elements, and two hundred and fifty years before there was any philosophic chemistry, let us see what sort of self-taught science could be talked by the illiterate glass-painter.

Using the form of dialogue and the name of "Practice," by which he commonly distinguishes his views from those of the schoolmen, he astonishes "Theory" by speaking of plurality of salts, and says: "I tell you that there is so great a number of them, that it is impossible for any man to name them all; and tell you further, that there is nothing in this world which has no salt in it, whether it be in man, the beast, the trees, plants, or other vegetative things, or even in the very metals; and tell you yet more, that no vegetative things could grow without the action of salt, which is in seeds; what is more, if salt were taken from the body of a man, he would fall to powder in less than the winking of an eye. If the salt were separated from the stones that are in buildings, they would fall suddenly to powder." "Copperas is a salt, nitre is a salt, vitriol is a salt, alum is a salt, borax is a salt, sugar is a salt,* sublimate, saltpetre, &c. . . . all those are

* The Malagasy call sugar "sweet salt." The word "salt," as used by Palissy, does not of course correspond exactly with its use by chemists in our own day. In each case it is an arbitrary term, applied to

different salts; were I to name them all, I never should have done." . . . "You must not suppose that the ashes of plants have power to blanch linen except by virtue of their salts; otherwise they would admit of being used several times. But inasmuch as the salt in the said ashes comes to dissolve in the water that is put into the copper, it passes through the linen," &c., &c. "Salt bleaches everything: salt hardens everything: it preserves everything: it gives savour to everything: it is a mastic which binds everything: it collects and unites mineral matters, and of many thousand pieces makes one mass. Salt gives sound to everything: without salt no metal would yield a voice. Salt rejoices human beings: it whitens the flesh, giving beauty to reasonable creatures: it preserves friendship between the male and female, by the vigour given to the sexes: it gives voice to creatures as to metals. Salt causes many flints, when finely powdered, to combine into a mass, forming glass and all kinds of vessels: by salt, all things can be converted into a translucent body. Salt causes all seeds to vegetate and grow.

"And though there be few people enough who know the reason why manure is of service to the seeds, and they are induced to bring it only by habit, not by philosophy,

a class of things. A comparison between the knowledge of Palissy and that of his own time and ours respectively, belongs to a later portion of this book. The extracts in the text serve only to indicate the progress of his mind, and the direction it was taking.

yet so it is, that the manure carried to the fields would be quite useless, if it were not for the salt which the straw and the hay deposited in rotting: wherefore they who leave manure-heaps at the mercy of the rains are very bad managers, and have neither acquired nor innate philosophy. For the rains which fall upon the heaps, running off down any declivity, carry with them the salts of the said manure, which will have been dissolved by the moisture, and on this account it will no longer be useful when it is taken to the fields. The thing is easy enough to believe; and if you will not believe it, watch when the labourer shall have carried manure into his field; he will put it, when unloading, into little piles, and he will come after a few days to scatter it about the field, and will leave none on the spots where the said piles have been; and for all that, when such a field shall have been sown with grain, you will find that the grain will be finer, greener, thicker, on the places where those piles had rested, than in any other part; and that happens, because the rains which fell upon the said hillocks, took with them the salt in passing through and descending to the earth; by that you may know that it is not the straw which is the cause of generation, but the salt which the seeds obtained out of the ground." . . . "By that, too, you will understand the reason why all excrements can aid in the generation of seeds." . . . "When God formed the earth, he filled it with all kinds of seeds: but if any one sows a field for

many years without manuring it, the seeds will draw the salt from the earth for their increase, and the earth, by this means, will find itself deprived of salt, and will be able to produce no more; wherefore it must be manured, or left at rest some years, in order that it may regain some salitude proceeding from the rains or snows. For all earths are earths, but some abound much more in salts than others. I do not here speak only of a common salt, but of salts that are vegetative."

Professor Liebig comes to our mind in reading passages like this. But Liebig is a chemist highly trained in the knowledge of our own day. Palissy was an illiterate man of genius, born of humble parents, in a miserable state of human society, three centuries ago.

We may now take part with "Theory," and say to Palissy: "Describe to us the way of making common salt, as it is practised in the Islands of Xaintonge, and show us a plan of the form after which the salt-marshes are made: for you know it very well; since we have heard it said that formerly you were upon the spot, with commission to make a plan of the said marshes."

"That is quite true," Palissy answers;* "it was at the

* I translate the account literally from Palissy's article, "*Du Sel Commun*," omitting only a few passages for want of space. I preserve, also, the method of punctuation employed by Palissy in what he calls his "rustic style." The punctuation employed by an untaught writer depends a good deal upon his cast of mind. When I call the style of Palissy untaught, I ought to add, that the reader will, in the course of these volumes, have full opportunity of judging whether its fresh vigour, liveliness, and grace, have any need of artificial polish.

time when they resolved to establish the gabelle in the said country. Now since you desire to understand these things, let me have audience, and I will cheerfully give you an account of them, and then I will let you see a plan.

“ In the first place you must understand that inasmuch as the sea is almost entirely bounded by great rocks, or lands higher than the sea, for making the salt-marshes, it has been necessary to find some plain lower than the sea: for otherwise it would have been impossible to find means of making salt by the heat of the sun: and it must be believed that if there had been found in any other part of France bordering on the sea, a spot proper for forming marshes, there would be such things in many places. Now it is not sufficient to have found a plain or country lower than the sea: but it is also requisite that the earths on which one proposes to establish marshes be tenacious, clammy or viscid like those of which are made pots, bricks, and tiles.

“ There is a seigneur of Antwerp who has spent a great deal upon the endeavour to make marshes in the Netherlands, according to the form and semblance of those in the islands of Saintonge: but though he has found plenty of low ground upon which he can bring the water of the sea, notwithstanding this, since the earth was not clammy or tenacious like that of Saintonge, he could not succeed in his intention, and his expenses have been lost: because the earths which he caused to be dug for the forming of

the said marshes being dry and sandy, were unable to contain the water.*

“Although our predecessors of the Saintonic islands have found certain flat or low grounds on the margin of the sea, and the earths at their foundation have been found naturally clammy or argillaceous, yet that has not sufficed for the attainment of their design: for it has been necessary to invent a way of beating the said earth in the manner which I will explain to you hereafter.

“If our said predecessors had not used great judgment and consideration in forming the salt-marshes, they would have done nothing that would have been of value: having then considered upon the grounds lower than the sea, they found that it was necessary to cut a channel which might bring readily the sea-water to the desired spots, for the making of the salt. Having thus dug certain channels they caused the sea-water to come into a great receptacle which they named the IARD;† and having made a

* The seigneur of Antwerp was a Marquis de Rhien; and how much it was worth his while to make an effort for the establishment of a salt-marsh on his own domain, is illustrated by the statistics that occur in a *Description des Pays Bas*, by Guichardin, printed in French, at Antwerp, in 1582. The town of Antwerp then paid to France 198,000 dollars annually for salt from Brouage. The price was at the rate of about three dollars for an English ton.

† The editors of the quarto edition of 1777, rightly considering that the words of the provincial salt-makers would convey no meaning by themselves to ordinary Frenchmen, and still less to foreigners, have illustrated the terms used among the marshes of Saintonge, by an extract from a book which I should have been very glad to have used frequently in illustration of this narrative, if it had been procurable. It is a description, in Latin, of Saintonge, by Nicolas Alain, a physician

sluice to the said IARD, they made at the end of the same other great receptacles which they named CONCHS*, into which they allow the water of the Iard to run in limited quantity, and from these conchs they cause the water to pass" through sieves of pierced planks, and by very tortuous passages descending slowly by a series of steps, that it may finally arrive, after much evaporation, in the great square of the salt-marsh.

"These things have not been made without great labour and expense of time, it has been necessary to excavate the square of the marsh-field at a level lower than the canal coming from the sea, lower also than the Iards and Conchs, in order to give slope or inclination to the steps and parts above named in order to convey the water into the great square of the marsh. And it must be noted that in hollowing this great square, it has been requisite to heap the earth and rubbish all about the border of the said square, which being put about the border makes there a great platform which they call BOSSIS,† upon which they are

at Saintes, while Palissy resided there. The book was written by Nicolas "during the first troubles," and published by his son Jean, a lawyer, in 1598. Its style and title is "*De Santonum Regione et Illustrioribus Familiis*,—in 4to. form. min. *Santonibus apud Franciscum Audebertum*. From the pages of this work, reprinted in the Quarto Palissy, I append such illustrations as I find of the terms used in salt-making. The great receptacle, which Palissy calls Iard, Alain calls *Jacos*, perhaps for the sake of adding a classical derivation—"fortassè quod illïc immota aqua *jaceat*."

* "*Quas à concharum cavitare similitudineque, Conchas appellant.*"—*Nicolas Alain*.

† "*Quod quia extuberascit et intumescit, Galli ut id genus alia Bossiam, quasi tumorem indicantes, vocant.*"—*Nicolas Alain*.

able to put great mounds of salt, called cows of salt* (VACHES DE SEL); and when it happens in winter that the season for making salt is passed they cover the said mounds of salt with rushes, which have a good sale on account of their utility. The said Bossis serve also in going from marsh to marsh for the passage of men and horses at all times: and it is requisite that they should be of a great size, because when any one has sold a cow or two of salt, according to the distance at which the salt lies for carrying into the ship, it is necessary for those in distant places to use a great number of beasts to carry the salt on board, and that is done with a marvellous diligence, so that one might say, who had never seen it done before, that they were squadrons bent upon fighting one another. There are people on board the vessel who do nothing but empty the sacks, and another marks, and each beast carries but one sack at a time; and those who drive the horses are commonly little boys, who directly the horse is unloaded and the salt discharged, throw themselves with speed upon the horse, and do not cease to gallop post-haste to the cow of salt, where there are other men who fill the sacks and load them upon the horses, and being reloaded the said boys lead them back promptly to the vessel. And inasmuch as from one side and the other all go and come busily, it is requisite that the said Bossis or platforms should be tolerably large, or else the horses would impede each other.

* Are they related to the pigs of lead?

“ Understand now the industry which it has been requisite to use in making the marshes fit, so that the earth shall not absorb the water put there to deposit salt. When the great square has been scooped and the rubbish cleared from it, before the steps and ways are made by which it is connected with the Iard, they have a number of horses and mares, which they fasten to one another so that they may be led, then they put them into the said great square where they wish to form the marshes. There is a person who holds the first horse by one hand, and has in the other hand a whip, who busily leads about the said horses and mares, until the earth underfoot has been well stamped and is able to hold water as if it were of brass After the earth has been thus stamped they form their” (connecting channels, &c., from the Iard), “ as if they moulded them in potter’s earth: you see now why I before told you that though one could find places lower than the sea, it would be impossible to prepare salt-marshes if the earth were not naturally argillaceous or viscid, like that of the potters.

“ There is another great labour which our predecessors have found it proper to undertake in preparing the marshes; there can be no doubt that the first who formed them chose places as close as possible to some natural channel for if there were no channel it would be difficult to bring the salt made on the marshes to the ship in the great sea because great ships cannot approach the coast by reason of their size; wherefore they who sell salt,

take little barks which penetrate the flat country and come as near as they can to the salt which has been sold ; they cast anchor, and so the said salt is brought first into the bark, then the said bark is taken to discharge into the ship: and it is to be noted that most frequently, by certain channels, entrance can be made only at high water: and to pass out, if the sea has retired, it becomes necessary to wait for the tide.

“ And though some natural channels have been found, notwithstanding this it has been necessary to aid nature: in order that the barks and little vessels may approach the places where the salt is made: and it is not to be doubted that our predecessors have also been constrained to form channels in places where they did not exist by nature: for otherwise they could not get the salt out of the said marshes. Therefore it all looks like a labyrinth, and one could not pass to the distance of a league without travelling six, because of the deviations one would have to make: and if any stranger were enclosed there, he would scarcely find a way out without a guide: because he would have to find a great number of bridges, which he must seek one to the left another to the right, sometimes in a direction exactly opposite to that in which he is going: for it must be understood that all the plain of the marshes is hollowed into canals, jards, conchs, or marst-fields ; some of the said fields are square, and others long and narrow, others run aslant: in order that all the ground may be employed in the formation of marshes: ust as in

a town the first builders have commonly taken a place squared according to their own convenience, and the last have occupied the nooks and vacancies left by the others, as they were to be found. The like has happened in the marshes ; for the first have occupied a place at their convenience as near as possible to the great channels and to the sea, and the last comers have taken places not exactly such as they desired, but they have formed their ground sometimes on spots very distant from the channels and the sea-coast, for which reason they find fewer purchasers: inasmuch as the cost of carrying their salt becomes too great.

“ Others have constructed marshes of little value, because very often the water fails them at the time of greatest need, inasmuch as the channels, jards, and conchs are not low enough in their level to receive sea-water always when they want it ; and a singular point has here to be noted, which is that in each marsh there is a canal made by labour of men, to bring the sea-water into the Iard, and other channels like small rivers, which serve for the passage of barks between the several marshes, in which they carry the salt to the great ship as I said before.

“ By such means all the earth of the valley of the marshes is laboured, dug and trenched for the use and service of the said salt, and for these causes I have said already that if a stranger were in the midst of the marshes, though he could see the spot which he desired to reach, he scarcely could arrive at it: inasmuch as very often

he must travel back to look for the bridges: also because he has no road or way except upon the Bossis, which are built in oblique lines, and it is not possible to find road or way in the said marshes other than the Bossis, which have been built high because the soil dug from all the marsh-fields has been heaped there; and if one were there in winter one would see all the said fields covered with water like great lakes, without any appearance of their form. On this account some painters, when they had been sent into these isles to know the reason why it is impossible for an army to march over the said salt-marshes, have been deceived: inasmuch as they visited them in the season when the water was spread over the said marshes, and took back with them inaccurate plans."

Palissy proceeds to relate how this happened to a certain Master Charles, whom he calls an excellent painter. It is very probable that inaccuracies and inconsistencies prevailing in the maps formerly supplied to government, had partly caused the order for that fresh survey upon which Bernard had been occupied. The marshes were flooded every winter, in order that the dikes and passages formed in the clay, being protected under water, might not suffer from the destructive bite of frost. The custom of flooding thus saved to the proprietors, yearly, a very large sum for repairs.

The salt was (and is) made by evaporation during the hot months, the season extending from the middle of May to the middle of September. Upon the details given by

Palissy on the subject of salt-making we must not dwell. They are not less distinctly set forth in his treatise than the view of the marshes, which he has painted for us in his own methodical and lively way. It must suffice for us to note, that the jards were replenished twice in the season, during the high tides of March and July; so that if an unusually hot summer chanced to dissipate the store, there was a loss of time and money. In a wet summer no salt could be made. If, during a whole day or night, rain fell upon salt drying in the marsh-field, Palissy informs us, "even if the rain lasted two hours, no salt could be made for fifteen days afterwards,—because it would be necessary to cleanse the marshes and to take all the water from them, as well the salted as the fresh,—so that if it were to rain once in every fifteen days, salt could never be made by the heat of the sun: wherefore we must believe that in rainy and cold countries salt could not be made as it is made in the islands of Xaintonge, even though they possessed all the conveniences already mentioned."

Palissy also takes some pains to point out the vast quantity of wood dispersed between the embankments and among the labyrinth of marshes, in the form of gigantic sluices, bridges, beam-partitions, and sieves; much of it consisting of the very largest timbers. "I tell you this," he adds, "that you may understand that the wood in the marshes being rotted or burnt, the forests of Guienne would not suffice to replace it. And there is no man

having seen the labour of all the marshes of Xaintonge, who would not judge that it has cost more expense to form them, than would be necessary for the building of a second town of Paris." This last fact will appear less startling, when we remember that, three centuries ago, Paris was not by any means a capital which we should now call large. But at that time the labyrinth of marshes in Saintonge formed the most important source of salt in Europe. During three centuries the salt-marshes of Saintonge have decayed in fame and substance; they were long since distanced in competition by the salt-marshes of Brittany. In the mean time, Paris has become a place which all the world is learning to regard with wonder. So that, in truth, we could afford anything rather than the building of a second town of Paris.

From the account which Palissy has given of the marsh-district, we may perceive that it involved no slight labour to survey it accurately. Hard at work during the dry season of 1543, and mapping the adjacent towns and villages during the winter, when the marshes were all flooded,—Palissy brought his work to a conclusion certainly before Midsummer in the succeeding year. An edict of St. Maur des Fosses, dated in July, 1544, is subsequent to the completion of the survey.

"Then," says Palissy, "when the said commission was ended, and I found myself paid with a little money, I resumed my affection for pursuing in the track of the enamels."

CHAPTER XI.

SECOND PALISSIAN WAR FOR THE DISCOVERY OF
WHITE ENAMEL.

UNDAUNTED by the failure of his early efforts, and relieved for a while from care about his household bread, Palissy no longer "comported himself as if he were not zealous to dive into the secret of enamels." If the thrifty wife had calculated upon long possession of a hoard of money, retained from the profits of the marsh-surveying, to which she could have recourse at any season of unusual pressure, she was quickly undeceived. Let us not spend all our admiration on the inflexible energy with which we shall find Bernard Palissy battling his way on through adversity; sympathy is due to her who, as his wife, stood by him in the contest, sharing all the blows he suffered, unable to comprehend the battle that he waged. If she repined a little when she looked down on her ragged dress, during the years of struggle, and knew that her husband could have earned her bravery and ribbons; if

she complained much when she saw her children hungry, can we say that she was weak. The first act which Bernard chronicles, as opening the second war for the discovery of white enamel, was of a kind likely to terrify the most placid of wives,—“ I broke about three dozen earthen pots—all of them new.”

His home-made furnaces had failed, and potters' furnaces had failed, because they were not hot enough. The next step was to try the furnaces used by glass-workers, resuming his old method of experiment, now that he could again buy earthenware to break and chemicals to burn. “ Seeing,” Bernard says, “ that I had been able to do nothing, whether in my own furnaces or in those of the before-mentioned potters, I broke about three dozen earthen pots, all of them new; and having ground a large quantity of different materials, I covered all the bits of the said pots with my chemicals, laid on with a brush; but you should understand that in two or three hundred of those pieces, there were only three covered with each kind of compound. Having done this, I took all these pieces and carried them to a glass-house, in order to see whether my chemicals and compounds might not prove good when tried in a glass-furnace.” By covering three separate fragments with each compound that he thought likely to melt into a white enamel, Palissy hoped that—these being in different positions in the furnace, and subject to such variations as there might be in the heat—he was securing to himself a fair chance of success with one

fragment in every three. But at the same time, groping as he was in the dark, he knew that there was little promise of a satisfactory result unless he felt his way abundantly, submitting to the test about a hundred guesses at a time. One of the hundred, he might reasonably hope, would direct him on the road to what he sought. Up to this point his experiments had failed in the first necessary stage of getting his drugs properly melted; but the glass-furnace on which Bernard now depended for assistance, cheered him on immediately with a ray of hope. He had sent his first batch of trial-pieces to the glass-house. "Then," he tells us, "since these furnaces are much hotter than those of potters, the next day when I had them drawn out, I observed that some of my compounds had begun to melt; and for this cause I was still more encouraged to search for the white enamel, upon which I had spent so much labour."

No more encouragement was needed. "This little symptom, which I then perceived," says Palissy, "caused me to work for the discovery of the said white enamel for two years beyond the time already mentioned, during which two years I did nothing but go and come between my house and the adjacent glass-houses, aiming to succeed in my intentions:" two years of zealous labour without visible result; two years of idleness, as the world reckons industry: for Palissy, labouring rarely in his former calling, consumed the profits of his labour on the marshes, and saw his home falling again into decay. Still children

were being born to him, and one or two he had seen buried. Yet through anxiety and mourning he worked on, upon no higher encouragement than the discovery that he could now sometimes get his chemicals to melt. So during two years he bought pots and broke them, he bought drugs and burnt them, and did nothing but go and come between his own house and the adjacent glass-houses. To force a path into the unknown is toilsome labour; but when the intellect is active with an innate sense of strength, it feels in its own way as a man feels who is vigorous in muscle, and prefers a tour on foot among the mountains to a morning's ride in the old family coach.

But Palissy was poor. He had a wife and children, for whose well-being he had made himself responsible. His domestic argument was of an obvious character:—Dear wife, I vex you now; but you know well that glass-painting is little patronised, and that our living would be scanty to the last if I adhered to my old callings. Stand by me now through a year or two of poverty; let us submit to privation, and get through the dark days as we can; for when I have discovered the enamel, as I surely shall if I still persevere in seeking for it, you can be the best-dressed woman in the town of Saintes, and we can put our sons into good trades or into farms, and we can give dowries to our daughters. With such arguments the wife's ear could be satisfied for a few months; but when the months multiplied and grew to years, and still

the present facts were poverty and hope,—when Bernard's hope was daily made to appear inconsistent with his daily crosses, how could her satisfaction last? Bernard had a sanguine temperament, which was not to be trusted, modern wives would say; and it would be their duty to fight against it, and, if possible, to check him on the road to ruin. Thoughts of this kind clouded about the temper of the wife of Palissy. She could not understand the energy of will which converts hope into foreknowledge, and the bold instinct of power which hangs that hope so high above the common estimate of human reach, in the true man of genius.

During two years, then, after the discovery that he could sometimes get his chemicals to melt when they were put into a glass-furnace, he pursued his experiments without success, and equally without fatigue. And then again, the urgent cares of home bade him desist. He determined, therefore, to send one last batch of trial-pieces to the furnace, and if that should, as usual, lead to no good practical result, he would pause while he devoted himself wholly to his early trades, and to the present small, rather than the future great well-being of his family. But since this trial was to be his last, he was resolved that he would not give up his search easily, but close with an unusual effort. He broke more pots than ever, purchased a still greater variety of drugs and chemicals, and made no less than three hundred different mixtures, each of which might possibly contain the substances used in the cover-

ing of the enamelled cup. Having placed these, each on its own piece of broken pottery, duly marked and registered, he walked beside the man who carried them to the glass-furnace. He had no longer courage to support the sight of that domestic poverty which his experiments had caused: yet it was grievous to give up the struggle—not the less grievous because it had cost so much—before he had justified his efforts by success. The trial-pieces were all put into the furnace; and by the furnace-mouth sat Palissy, determined to watch through all stages the success of this, his last attempt.

On such moments in a life the mind dwells as upon the recollection of a picture. We see the glow of the furnace, through the two mouths by which it is fed, upon the walls of the surrounding hovel. We have a glimpse of some rich foliage, with broken bits of sunbeam scattered over it, as a glass-worker enters by the hovel-door, bringing in billets from the wood to feed the fire. Three or four men of Sain-tonge are occupied about the place, rough, coarsely-featured men, whose flesh is in strong contrast with the spirit that looks out of the face of Bernard, anxious and very still. Bernard Palissy, a man in the full strength of life, aged about thirty-seven, with a vigorous frame, paled and thinned by care, sits on a heap of fagots, sometimes laughing with the men, to cover his anxiety, at other times reverting with a fixed gaze to the furnace-mouth. During four hours he has waited there. The furnace is opened, and his whole form is shining with a bright glow from the

molten glass, as his eyes run over his regiment of potshards. The material on one of them is melted, and that piece being taken out, is set aside to cool. The furnace is closed, and Palissy has now to watch the cooling of that compound which had been so quickly melted; not with great hope at first; but as it hardens—it grows white! All that was black in the thoughts of Palissy begins to whiten with it. It is cold. It is “white and polished;”—a white enamel, “singularly beautiful.”

A crowd of cares were nesting in the mind of Palissy when he went with his trial-pieces to the furnace; they all fly away—perhaps like pigeons, only to settle again—at any rate, they fly away, and Palissy goes back to his poor home over the meadows, carrying the white enamelled potshard in his hand, to tell good tidings to his wife, and bid her share his triumph as she had shared too often his defeats. In what way he told the story to his wife, we do not know; to us he tells it thus: “God willed that when I had begun to lose my courage, and was gone for the last time to a glass-furnace, having a man with me carrying more than three hundred kinds of trial-pieces, there was one among those pieces which was melted within four hours after it had been placed in the furnace, which trial turned out white and polished, in a way that caused me such joy as made me think I was become a new creature.”

This took place in the year 1546, Palissy then being, as I before said, about thirty-seven years old. “I thought,” he says, “that from that time I had the full perfection of

the white enamel, but I was very far from having what I thought. This trial was a very happy one in one sense, but very unhappy in another: happy, because it gave me entrance upon the ground which I have since gained ; but unhappy, because it was not made with substances in the right measure or proportion."

His wife found reason to consider it unhappy in another sense. The pressure of extreme poverty had forced him to resolve that he would confine his investigations to one other trial. The success of that trial urged him onward, set aside his design to return to his old business, encouraged him (and perhaps in the first instance, his wife also) to increased endurance, while he laboured with more zeal than ever,—for he sought now to turn the knowledge, earned with so much pain, to practical advantage. He still had all to learn; experience had yet to teach him that his past labours were light, compared with the difficulties which were yet to be surmounted before he should have learnt to rival the enamelled cups of Italy.

Henceforth his work was to be private, and he was to produce very soon, he believed, illustrious results. A furnace like that of the glass-workers sufficed, as it was proved, for the melting of his enamel. He must have such a furnace in his house, or rather in a shed appended to his house, which at that time certainly was situated in the suburbs of the town. But they were miserably poor. Bernard having found means to obtain bricks, perhaps upon the credit of his future earnings, could not afford to

hire a cart for their delivery upon his premises; he was compelled to journey to the brickfield, and to bring them home on his own back. He could pay no man for the building of the furnace; he collected the materials for his mortar, drawing for himself the water at the well; he was bricklayer's boy and mason to himself; and so with incessant toil he built his furnace, having reason to be familiar with all its bricks. The furnace having been at length constructed, the cups that were to be enamelled were immediately ready. Between the discovery of the white enamel and the commencement of the furnace there had elapsed a period of seven or eight months, which he had occupied in experiments upon clay, and in the elaborate shaping of clay vessels that were to be in due time baked and enamelled, and thereafter, on the surface of the enamel, elegantly painted. The preliminary baking of these vessels in the furnace was quite prosperous.

Then the successful mixture for the white enamel had to be tried on a large scale—such a mixture as that which Luca della Robbia had found “after experiments innumerable.” Its proportions we do not know; but the materials used include, Palissy tells us, preparations of tin, lead, iron, antimony, manganese, and copper,* each of which must exist in a fixed proportion. The materials for his

* “The enamels which I use are made of tin, lead, iron, steel, antimony, sapphire (sulphate) of copper, sand, ashes of tartar, litharge, stone of Perigord (manganese). These are the materials proper for the making of my enamels.”

enamel Palissy had now to grind, and this work occupied him longer than a month without remission, beginning the days very early, ending them very late. Poverty pressed him to be quick; intellectual anxiety to witness a result was not less instant in compelling him to labour. The labour of the grinding did not consist only in the reduction of each ingredient to the finest powder. When ground, they were to be weighed and put together in the just proportions, and then, by a fresh series of poundings and grindings, they were to be very accurately mixed. The mixture was made, the vessels were coated with it. To heat the furnace was the next task; it had to be far hotter than it was when it had baked his clays—as hot, if possible, as the never-extinguished fires used by the glass-workers. But Bernard's fire had been extinct during the days of grinding: poverty could not spare a month's apparent waste of fuel.

Bernard lighted then his furnace-fire, by two mouths, as he had seen to be the custom at the glass-houses. He put his vessels in, that the enamel might melt over them. He did not spare his wood. If his composition really did melt—if it did run over his vessels in a coat of that same white and singularly beautiful enamel which he had brought home in triumph from the glass-house—then there would be no more disappointments, no more hungry looks to fear; the prize would then be won. Palissy did not spare his wood; he diligently fed his fire all day, he diligently fed his fire all night. The enamel did not melt.

The sun broke in upon his labour, his children brought him portions of the scanty household meals, the scantiness impelled him to heap on more wood, the sun set, and through the dark night, by the blaze and crackle of the furnace, Palissy worked on. The enamel did not melt. Another day broke over him: pale, haggard, half-stripped, bathed in perspiration, he still fed the furnace-fire, but the enamel had not melted. For the third night his wife went to bed alone, with terrible misgivings. A fourth day and a fourth night, and a fifth and sixth—six days and nights were spent about the glowing furnace, each day more desperately indefatigable in its labour than the last; but the enamel had not melted.

It had not melted; that did not imply that it was not the white enamel. A little more of the flux used to aid the melting of a metal, might have made the difference, thought Palissy. "Although," he says, "quite stupefied with labour, I counselled to myself that in my enamel there might be too little of the substance which should make the others melt; and seeing this——" What then? not, "I regretted greatly the omission;" but, "I began, once more, to pound and grind the beforenamed materials, all the time without letting my furnace cool; in this way I had double labour, to pound, grind, and maintain the fire." He could hire no man to feed the fire while he was sleeping, and so, after six days and nights of unremitting toil, which had succeeded to a month of severe labour, for two or three weeks more Palissy still devoted himself

to the all-important task. The labour of years might be now crowned with success, if he could persevere. Stupefied, therefore, with a labour under which many a weaker body would have yielded, though the spirit had maintained its unconquerable temper, Palissy did not hesitate, without an hour's delay, to begin his entire work afresh. Sleeping by minutes at a time, that he might not allow the supply to fail of fresh wood heaped into the furnace, Palissy ground and pounded, and corrected what he thought was his mistake in the proportions of the flux. There was great hope in the next trial; for the furnace, having been so long alight, would be much hotter than it was before, while at the same time the enamel would be in itself more prompt to melt. All his own vessels having been spoiled—the result of seven months' labour in the moulding,—Palissy went out into the town, when his fresh enamel was made ready, and purchased pots on which to make proof of the corrected compound.

For more than three weeks Palissy had been imprisoned in the outhouse with his furnace, haggard, weary, unsuccessful, but not conquered yet, his position really justifying hope. But the vessels which his wife had seen him spend seven months in making, lay before her spoilt; the enamel had not melted; appearances were wholly against hope to her as an observer from without. Bernard had borrowed money for his last experiments: they were worse than moneyless, they were in debt. The wood was going, the hope of food was almost gone. Bernard was working

at the furnace, desperately pouring in fresh wood; his wife sat in the house, overwhelmed with despair. Could it lessen her despair that there was no result when all the stock of wood was gone, and, wanting money to buy more, she vainly strove to hinder Palissy from tearing up the palings of their garden, that he might go on with a work which had already ruined them.

Bernard knew well how much depended on his perseverance then. There was distinct and fair hope that the melting of his present mixture would produce enamelled vessels. If it should do this, he was safe. Though in themselves, since he now had mere jugs and pipkins to enamel, they might not repay his labour, yet it sufficed that they would prove his case—justify all his zeal before the world, and make it clear to all men that he had a secret which would earn for him an ample livelihood. Upon the credit of his great discovery from that day forward he could easily sustain his family, until he should have time to produce its next results. The furnace, at a large expense of fuel, was then fully heated; his new vessels had been long subjected to its fire: in ten minutes—twenty minutes—the enamel might melt. If it required a longer time, still it was certain that a billet in that hour was of more value than a stack of wood could be after the furnace had grown cold again.

So Bernard felt; but any words of his, to his wife's ear, would only sound like the old phrases of fruitless hope. The labour and the money perilled for the last nine months,

were represented by the spoiled vessels in the outhouse; they were utterly lost. The palings were burnt in vain; the enamel had not melted. There was a crashing in the house; the children were in dismay, the wife, assisted doubtless by such female friends as had dropped in to comfort her, now became loud in her reproach. Bernard was breaking up the tables, and carrying them off, legs and bodies, to the all-consuming fire. Still the enamel did not melt. There was more crashing and hammering in the house; Palissy was tearing up the floors, to use the planks as firewood. Frantic with despair, the wife rushed out into the town; and the household of Palissy traversed the town of Saintes, making loud publication of the scandal.

Very touchingly does Palissy himself relate the position to which he had now been brought. "Having," he says, "covered the new pieces with the said enamel, I put them into the furnace, keeping the fire still at its height; but thereupon occurred to me a new misfortune, which caused great mortification, namely, that the wood having failed me, I was forced to burn the palings which maintained the boundaries of my garden; which being burnt also, I was forced to burn the tables and the flooring of my house, to cause the melting of the second composition. I suffered an anguish that I cannot speak, for I was quite exhausted and dried up by the heat of the furnace; it was more than a month since my shirt had been dry upon me. Further to console me, I was the object of mockery; and

even those from whom solace was due ran crying through the town that I was burning my floors! And in this way my credit was taken from me, and I was regarded as a madman.

“ Others said that I was labouring to make false money, which was a scandal under which I pined away, and slipped with bowed head through the streets, like a man put to shame. I was in debt in several places, and had two children at nurse, unable to pay the nurses; no one gave me consolation, but, on the contrary, men jested at me, saying, ‘ It was right for him to die of hunger, seeing that he had left off following his trade.’ All these things assailed my ears when I passed through the street; but for all that there still remained some hope which encouraged and sustained me, inasmuch as the last trials had turned out tolerably well; and thereafter I thought that I knew enough to get my own living, although I was far enough from that (as you shall hear afterwards).

“ When I had dwelt with my regrets a little, because there was no one who had pity upon me, I said to my soul, ‘ Wherefore art thou saddened, since thou hast found the object of thy search? Labour now, and the defamers will live to be ashamed.’ But my spirit said again, ‘ You have no means wherewith to continue this affair; how will you feed your family, and buy whatever things are requisite to pass over the four or five months which must elapse before you can enjoy the produce of your labour?’ ”

CHAPTER XII.

A HERETIC IS BURNT AT SAINTES : NEW TROUBLES
[AFFLICT BERNARD PALISSY.

WE have now arrived at the beginning of the year 1547. The greater part of the year 1546 had been employed by Palissy, as we have seen, in the examination of clays, and the modelling of those vessels upon which he was to make the first trial of his white enamel. But although Bernard bestowed upon such labour enough energy to justify us in assuming that it was the sole thought of his mind, we shall err greatly if we content ourselves with any such assumption. In the month of August, 1546, not long before they were taught to regard Palissy as a madman, the people of Saintes had been enlightened by the fire in which a heretic was burnt alive. It was "the brother at Gimosac, who kept a school, and preached on Sunday, being much beloved by the inhabitants."

This was nearly the beginning of the horrors perpetrated in Saintonge for the benefit of Christianity. From

the beginning, Palissy paid to such events eager attention, and he was soon led to throw the whole force of his energy upon the side of the reformers. The persecutions were not new to France, though new to Saintonge, in the year 1546: they must have been familiar to Palissy, as we have seen, during his years of wandering. Every year had supplied its list of martyrs. Beyond the limits of Saintonge, in that year 1546, there had been destroyed Pierre le Clerc, Etienne Mangin, Michel Caillon, Jaques Bouchebec, Jean Brisebarre, Henri Hutinot, François le Clerc, Thomas Honoré, Jean Baudouin, Jean Flèche, Jean Pigneri, Jean Mateflon, and Philippes Petit. Also a peasant who, in the forest of Lyori, questioned prisoners upon the way to execution, and having learned the reason of their sentence, claimed a place upon the cart and went to execution with them. "In this year," says a contemporary historian, "France began to redouble persecution by the death of Pierre Chappot, executed at Paris with five others, of which the names have escaped; Etienne Pouliot burned with Bibles, and a François d'Angi, at Nonnay, in Vivarets."

The interest taken by Palissy in the religious struggles of his time was manifested in his life and writings, not less vividly than his strong interest as a philosopher in nature, or his almost unexampled patience in the prosecution of researches as an artisan. In one of his treatises there is contained a History of the Troubles of Saintonge, in which he relates much that he himself saw and knew

of the events connected with the religious history of Saintes. The events which occurred in the year 1546 left a deep impression on the mind of Palissy, and are related by him, many years afterwards, from memory, in great detail. It becomes necessary, therefore, that we interrupt the story of his struggle to produce enamelled vases, while we dwell upon some other facts on which the mind of Palissy was also at the same time dwelling.

Historians will recognise the philosophic motive which induced Palissy to interpolate among his works a history of his experiences in Saintonge. Their labour would be light, if all men who have power, had the will to act on Palissy's suggestion. "I should think it well," he says, "that in each town there should be persons deputed to write faithfully the deeds that have been done during these troubles; and from such materials the truth might be reduced into a volume." For this cause, Palissy informs us, he has written his short narrative.* "You must understand," he continues, "that just as the Primitive Church was built upon a very small beginning, and with many perils, dangers, and great tribulations, so, in these last days, the difficulty and dangers, pains, labour, and afflictions, have been great in this region of Xaintonge. I say of Xaintonge, because I will leave the inhabitants of any other diocese to write of it themselves

* It will be found exactly as he wrote it, in the selection from his works at the conclusion of this volume, where it is entitled the *History of the Troubles of Xaintonge*.

that which they truly know." This preface is the language of a naturalist, who has acquired a close habit of observation, and who understands how many small experiences must be put together for the forming, with anything like accuracy, of one great general conclusion.

Palissy begins his narrative in the year 1546, when "certain monks, having spent some days in parts of Germany,* or, it may be, having read some books of their doctrine, and finding themselves deceived, they had the boldness, secretly enough, to disclose certain abuses ; but as soon as the priests and holders of benefices understood that these people depreciated their trade, they incited the judges to descend upon them: this the judges did, with an exceedingly good will, because several of them possessed some morsel of benefice which helped to boil the pot. By this means, some of the said monks were constrained to take flight, to exile and unfrock themselves, fearing lest they might die in too hot a bed. Some took to a trade, others kept village schools ; and because the isles of Olleron, of Marepnes, and of Allevert, are remote from the public roads, a certain number of the said monks withdrew into those islands, having found sundry means of living without being known."

* It has already been observed that the French reformers were by no means copies from the German. Palissy, however, knew and honoured the name of the great German reformer whose sound was then filling the world, and identified him naturally with the entire movement. Subsequent facts will abundantly suffice to connect the reform movement in Saintonge with the teachings of Geneva.

We have already seen that many heretics, and among them Calvin himself, had fled for refuge to Saintonge before the year 1546. When Palissy assigns that date to the commencement of his tale, he does so, probably, from two reasons, one very much dependent on the other. The first reason is, that in the year 1546 persecution was redoubled,* and the number of refugees would consequently be multiplied; the second reason is, that the increased number of refugees, and their exemplary way of life, probably in that year arrested more strongly than usual Palissy's attention. If he had, before that date, only advanced to a state of vague dissent from the inconsistencies and worldly dealings of the orthodox Church, it is to the year 1546 that we must assign his own distinct enrolment in the body of reformers. If this be so, the reference must be considered personal, as well as general, in the succeeding portion of the statement concerning the reformed monks of Olleron, Marepnes, and Allevert: "And as they visited people, they ventured to speak only with hidden meaning, until they were well assured that they were not to be betrayed. And after that, by this means, they had reformed some number of

* This fact was stated a few pages back, in a quotation from a history written by one of Palissy's contemporaries, *L'Histoire Universelle du Sieur d'Aubigné*, &c.: its title might be fairly modernised into D'Aubigné's History of his own Time, between the years 1550-80. As it contains many minute details of the doings of the French reformers, I shall be frequently indebted to it in the later portions of this narrative.

persons, they found means to obtain the pulpit, because in those days there was a grand-vicar who tacitly favoured them: thence it followed that by little and little, in these districts and islands of Xaintonge, many had their eyes opened, and knew many errors of which they had before been ignorant; for which cause many held in great estimation the said preachers, inasmuch as but for them they would view their errors poorly enough."

The favour of the grand-vicar, by which the reformers of Saintonge were encouraged, was not a matter of unusual good fortune. The secret growth of the Reformed doctrines had been most decided among educated or intellectual men; and for this reason we are told that there was scarcely a set of officials in the country which did not include one or two men willing to assist reformers.*

The Bishop of Saintes did not, of course, often reside at Saintes; Saintes was no more to him than one bone in his mess of potage. His fit place was at court, for he was no less magnificent a person than Charles, Cardinal of Bourbon, an august personage, then twenty-three years old, "descended from the precious blood of Monseigneur St. Louis."† But "there was in those days," says Pa-

* "This religion being received principally by men of letters, there were very few seats of justice in France which was not attended by some officer favouring this doctrine; by means of such men, they who compiled the great Book of Martyrs authenticated their reports by Acts and entire lawsuits taken from the official records."—*Les Histoires du Sieur D'Aubigné*, bk. ii., ch. vii.

† He was born in 1523, at Ferté-sous-Jouarre, and died at Fontenaille-Comte, in 1590. He was brother to Antony, King of Navarre, and

lissy, "a man named Collardeau, a fiscal attorney, a man perverse and of evil life, who found means to give notice to the Bishop of Xaintes, who was at the time at court, giving him to understand that the place was full of Lutherans, and that he gave him charge and commission to extirpate them." This busy person wrote more than one letter, and crowned his energetic efforts with a trip to Paris, for the express purpose of speaking to the great man. "He succeeded so well by these means, that he obtained a commission from the bishop and from the parliament of Bourdeaux"—within whose jurisdiction I have already said that the diocese of Saintonge is included—"with a good sum of deniers that were taxed to him by the said court. This he contrived for gain, and not through zeal on behalf of religion."

The natural inclination of educated men towards the reformers was, throughout these troubles, held constantly in check by appeals from within or from without to their self-interest. Income, dependent on some benefice, restrained the larger number from all active sympathy. Collardeau, in the present instance, "tampered with certain judges, as well in the island of Olleron as of Allevvert, and likewise at Gimosac; and having corrupted these judges, he caused the arrest of the preacher of St. Denis,

was afterwards called Charles X. by the Leaguers. In 1584, D'Aubigné overstates by fourteen years the age of Cardinal Bourbon; this is worth noting, as I must hereafter show why I believe him to have made a like error in the case of Palissy.

which is at the end of the island of Olleron, named Brother Robin, and by the same means caused him to be passed into the island of Allevard, where he arrested another preacher named Nicole; and some days afterwards, he took also the brother of Gimosac, who kept a school and preached on Sundays, being much beloved of the inhabitants. And although," says Palissy, "I believe the story to be written in the Book of Martyrs,* yet, nevertheless, because I know the truth of certain facts, I have found it well to write them, namely, that they well disputed and maintained their religion in the presence of one Navières, theologian, canon of Xaintes, who had himself formerly begun to detect errors, however much—because he had been conquered by his belly—he maintained the contrary." Of this they took care, of course, duly to remind him. However the right may stand, it rarely happens in a contest that the scolding is monopolised by either party. "However that might be, these poor folk were condemned to be degraded and caparisoned in green, in order that the people might esteem them fools or madmen; and what is more, because they maintained manfully the cause of God, they were bridled like horses by the said Collardeau, before being led upon the scaffold, which bridles had to each an apple of iron which filled all the inside of the mouth—a very hideous thing to see." Hideous indeed! This, then, was one sight which amused

* This is the book referred to in a note upon page 177. Its compilers closed their labour with the year 1562.

Painted
the town of Saintonge, and largely occupied the thoughts of Palissy while his fingers laboured in the moulding of those earthen vessels which were afterwards destroyed in his first effort at enamelling. His clay was then within a few months of destruction, but those pieces of God's clay—Brother Robin and his friends—were to be broken sooner. "Being thus degraded, they restored them into prison to conduct them to Bourdeaux, in order that they might be condemned to death."

Palissy soon found more subject for discourse and cogitation in connexion with these ministers. Brother Robin was the best of them, that is to say, the most active; and him, accordingly, "it was designed to put to death with the most cruelty." Brother Robin was a tit-bit to be guarded carefully. He was kept with his companions, heavily ironed, in a prison attached to the bishop's palace. A sentry was put outside their cell, to listen for all sounds that indicated efforts to escape; and a by no means friendly grand-vicar had contributed a number of large village dogs, "which were set at large in the bishop's court, in order that they might bark if any prisoner attempted to come out." All the precautions were so thoroughly complete, that the watchman saw no reason why he should not go to sleep during the orthodox hours appointed for that purpose. He was not a heretic, and so he went to sleep.

The heretical monk, Brother Robin, preternaturally wakeful, had found means to keep or get possession of a file. He had already filed his chains asunder, and was

scraping a hole by which his body might pass through the prison-wall, selecting for his purpose an unreasonable hour, consistent with his usual perversity. It is obvious that no Christian watchman of regular habits could have anticipated so indecent a proceeding.

Brother Robin had contrived to remove a good number of stones out of his prison-wall, and would have got to the free air, if a bishop's household had been something less familiar with good liquors. The good service done by all retainers in their master's absence was attested by a pile of empty hogsheads in the court, heaped up against the prison-wall; and Brother Robin tapped his wall, unluckily, into the barricade of them. How many were there piled he could not tell; his obvious duty was to give a lusty push, and so he did, and down they came, making, as empty hogsheads will, a heavy drumming.

The reveille thus beaten roused the watchman, who came out into the night to listen. Brother Robin was too wise to make a noise. The watchman heard that there was nothing to hear, though there had been a noise—one of those unaccountable noises made by that unaccountable tumbling-down of things which will occasionally startle all of us at night. The watchman went in to end his nap, and Brother Robin came out, if possible, to finish his adventure. "And so the said Brother Robin went out into the court, at the mercy of the dogs."

But Brother Robin, by much barking, had long been made aware that he should have dogs to contend with.

He had stored up for them a supper from his bread. It is the nature of dogs, as of most other creatures who dance about the doors of great men, to be always hungry. A dog in the year 1546 would scarcely have been able to rank as the companion of man, in France, if he had not had a tender corner in his belly, by the soothing of which he could be managed easily. Brother Robin filled the mouths of his antagonists with sturdy lumps of bread, and neither man nor dog will care to bark while he has anything to swallow.

So Brother Robin had his own way for a little time. "Now you must know"—I drop again into the quaint, terse narrative of Palissy—"now you must know that the said Robin had never been in this town of Xaintes, for this cause being in the bishop's court, he was still shut up; but God willed that he should find an open door which led into the garden, which he entered; and finding himself again shut up between certain somewhat high walls, he perceived, by the light of the moon, a certain pear-tree which was close enough to the said wall, and having mounted the said pear-tree, he perceived, on the other side of the said wall, a chimney, to which he could leap easily enough. Seeing which, he went back to the prison, to know whether any one of his companions had filed his irons." He had given them his own file, and if they had chosen to risk the adventure with him, there would have been time enough to cut an iron chain or two while Brother Robin was boring through the wall. Probably,

however, they esteemed it honourable to await their martyrdom.* Brother Robin, though he would not have tampered with his soul, was ready to deny his body to the executioner, if he could carry it by any skill into a place of safety; so, finding his companions with their chains whole, “he consoled and exhorted them to battle manfully, and to take patiently their death; and embracing them, took leave of them, and went again to mount upon the pear-tree, and thence leapt upon the chimneys of the street.”

The bishop’s wall was only “somewhat high,” and as Brother Robin leapt down from it upon the chimneys of the street, the houses in that part of Saintes must have been somewhat low. To find a way down, therefore, from the chimneys to the road was not a difficult proceeding.

The escaped heretic, outside the bishop’s walls, traversing on a moonlight night the streets of Saintes, was treading upon unknown ground. He might find his way to the outskirts, but what would the town guards say to a man stealing out into the country at midnight, with a strange face and no very clear account to give of his proceedings? Every house contained a stranger, and almost

* Every man murdered in the name of Christ was not then called a martyr. That honour belonged only to those who, to the last, had power to save their lives by a rejection of their faith, and went to their death deliberately refusing the temptation. This, at least, is the definition given in the contemporary Book of Martyrs, previously mentioned.

every house an enemy ; but since it was absolutely necessary to find shelter somewhere, and while wandering about the street to have some ostensible purpose for so doing, Brother Robin began, in a most reckless manner, to disturb the slumbers of the orthodox.

Though he did not know of any friend in Saintes, it so happened that during his imprisonment the clever monk had been attacked with pleurisy, and been attended during illness by a physician and apothecary. The names of these people he remembered. Accordingly, the wily fellow tucked his dress about his shoulders in such fashion, that under the moonlight it resembled the costume of a footman ; to increase the resemblance, he fastened his fetters to his thigh, and then, with that violent haste which suited his own purpose, and appeared very well to suit the purpose of a messenger from some family afflicted with a sudden illness, he proceeded to knock up the people of Saintonge, “inquiring for the said physician and apothecary, of whom he had remembered the names. But in doing this, he went to knock at several doors belonging to his greatest enemies, and among others at the door of a counsellor who employed all diligence next morning to get news of him, and promised fifty dollars on the part of the grand-vicar, named Sellière, to him by whose means the said Robin should be taken.”

Brother Robin, however, had met with the success he deserved ; he had found “refuge in a house, and was from thence, in the same hour, conducted out of the town.”

Probably, the physician or apothecary had an educated sympathy with the reformers, and answered the trust placed in his generosity by Brother Robin, trotting out with him in his disguise of footman, as with a person by whom he had been summoned to an urgent case. Subsequent suspicion never would be fastened on so commonplace an incident. This escape of Brother Robin, in August, 1546, was an event over which Palissy no doubt rejoiced abundantly ; he styles it "an admirable accident." The companions who remained in prison, and made no endeavour to escape, were burnt during the same month ; "one in the town of Xaintes, and the other at Leghorn, because the parliament of Bourdeaux had fled thither by reason of the plague, which was then in the town of Bourdeaux." This incidental mention of a parliament ejected by the plague, reminds us duly of another feature in the sixteenth century. Bodies were plagued nearly as much as souls.

Purses were also plagued, those which were naturally slender in their constitution being always first to suffer. It was at this time, Palissy tells us, that "the bishop, or his counsellors, resolved upon a trick and stratagem extremely subtle ; for having obtained some order from the king, for the cutting down of a great number of forests which were around this town, nevertheless, because many found their recreation in the woods and pastures of the said forests, they would not permit that they

should be levelled; but those, following the Mahometan artifices, resolved to gain the heart of the people by preachings, and presents made to the king's party; and sent into this town of Xaintes, and other towns of the diocese, certain monks of the Sorbonne, who foamed, slavered, twisted and twirled themselves, making strange gestures and grimaces, and all their discourses were nothing but outcry against these new Christians; and sometimes they exalted their bishop, saying that he was descended from the precious blood of Monseigneur St. Louis; and in this way the poor people patiently allowed their woods to be cut down; and the woods having been thus cut, there were no more preachers. Thus you see how the possessions of people were practised upon, as well as their souls."

While we speak now of the cutting of the forests round Saintonge, which took place during this portion of the life of Palissy, it becomes fit that we should regard Palissy as lover of the woods and fields, and understand the spirit in which he regarded this wholesale destruction. The avarice which prompted holders of the benefices to attack the forests in almost all provinces of France, has been illustrated in a previous chapter. It concerns us only now to know how Palissy was accustomed to think, speak, and write, about such things. It has to be remembered that in those days wood was synonymous with fuel, and France depended upon forests for that necessary part of civilised

existence. After recounting with the fresh breath of a naturalist many of the delights of nature, Palissy says :* “ All these things have made me such a lover of the fields, that it seems to me that there are no treasures in the world so precious, or which ought to be held in such great esteem, as the little branches of trees and plants, although they are the most despised. I hold them in more esteem than mines of gold and silver. And when I consider the value of the very smallest branch of tree or thorn, I am filled with wonder at the great ignorance of men, who seem, in our day, to study only how to break through, cut down, and destroy the beautiful forests which their predecessors had been guarding as so precious. I should not find it wrong in them to cut the forests down, if afterwards they planted any portion of the soil ; but they think not at all of times to come, not considering the great harm they are doing to their children in the future.

“ *Question.*—And why do you find it so wrong that forests should be cut down in this manner? There are many bishops, cardinals, priories and abbeys, monasteries and chapters, which, in cutting forests down, have obtained treble profit. First, they have had money for the wood, and have given some of it to women, children, and men also. *Item.*—They have leased the soil of the said

* In a treatise, of which the chief part will be found at the end of these volumes, there entitled “ The Naturalist looking out on Evil Days.”

forests at a rental, out of which they have reaped much money also in entrance-fees. And afterwards, the labourers have sown wheat and seeds every year, of which wheat they have had always a good portion. You see, therefore, how much more income lands yield than formerly they yielded. For which reason I cannot think that this ought to be found wrong.

“ *Answer.*—I cannot enough detest such a thing, and can call it not a fault, but a curse and a misfortune to all France ; because, when all the woods shall have been levelled, there must be an end of all the arts, and artisans may go and browse on herb like Nebuchadnezzar. I have sometimes attempted to put down in order the arts that would cease, if there came to be an end of wood ; but when I had written a great number of them, I could see no way to an end of my writing ; and having considered all, I found that there was not a single one to be exercised without wood : that all navigation and all fisheries must cease ; and that even the birds, and several kinds of beasts, which nourish themselves upon fruits, must migrate to another kingdom, and that neither oxen, cows, nor any other bovine animals, would be of service in a country where there was no wood. I had studied to give you a thousand reasons ; but this is a philosophy which, when the outside waiters shall have thought about it, they will judge that without wood it is impossible to exercise any art ; and it would even be necessary, if we had no wood,

for the office of the teeth to become vacant, and where there is no wood, there is no need of wheat, nor any other kind of grain for making bread.

“ I think it a very strange thing that many seigneurs do not compel their subjects to sow some part of their land with acorns, and other parts with chestnuts, and other parts with filberts, which would be a public good, and a revenue that would grow while they were sleeping. That would be very fit in many parts where they are constrained to amass the excrement of oxen and cows, to warm themselves ; and in other regions they are obliged to warm themselves and boil their pots with straw ; is not this a fault and public ignorance ? If I were seigneur of such lands so barren of wood, I would compel my tenants to sow trees in at least a part of them. They are much to be pitied ; it is a revenue which would come to them while sleeping ; and after they had eaten the fruits of the trees, they could be warmed by their branches and their trunks.”

Long afterwards, France really had become so much denuded of its forests, that advice like that of Palissy for the encouragement of plantations had to be promulgated by enactments. Upon this, however, it is not our province to dwell. Before we return to a relation of the struggles made by Palissy upon the track of the enamelled cup, we will add one more illustration of his breadth of mind, by following the clear-sighted philosopher into the fields. There we shall see him fretted by a state of things

which has continued over a large part of Europe ever since his time, and throwing out suggestions which even in England at the present day stand in the front rank among thoughts connected with the future progress of humanity. How few must there have been to sympathise with this clear sense, among the errors and confusions of society three centuries ago. In days when ignorance made much pretension, how inattentive would ears be to the philosophy of a poor potter, without Latin and Greek, who spoke clear thoughts in his own clear, delightful way, but in a way so homely and so unassuming, that even among the big words of the nineteenth century we almost need to reassure each other that it is true philosophy, high manly thought, which has been written with so modest and so touching a simplicity.

Palissy was struggling against difficulty, and regarded with contempt by his own townsmen, with just doubts about his "common sense" by his own wife. If his sense had indeed been common, let the world judge whether France might not have been some degrees more happy. Palissy looked about, with his habitually shrewd attention, in the fields.

"Many," he says, "devour their income as retainers of the court in hectorings, superfluous expenses, as well in accoutrements as in other things ; it would be much more useful for them to eat onions with their tenants, and teach them how to live well, set them good example, adjust their disputes, hinder them from ruining themselves with

lawsuits, plant, build, trench, feed, sustain, and, at the requisite and necessary time, hold themselves ready to do service to their prince for the defending of their country.

“I wonder at the ignorance of men, when I look at their agricultural implements, which ought to be in more request than precious bits of armour; yet for all that, it seems to certain striplings, that if they had handled any implement of agriculture, they would have been dishonoured by it; and a gentleman, however poor he may be, and up to his ears in debt, would be debased in his own eyes if his hands had been for a short time in contact with a plough.

“I could wish that the king had founded certain offices, estates, and honours, for all those who should invent some good and subtle agricultural tool.” (Three centuries ago, the spirit of this suggestion was three centuries and a half in advance of the time when it was uttered.) “If it were so, everybody’s mind would have been bent on achieving something. Ingenious men were never in demand at the siege of a town, but there were found a few; and precisely as you see men despise the ancient modes of dress, they would despise also the ancient implements of agriculture, and in good sooth they would invent better ones.

“Armourers often change the fashion of the halberds, swords, and other harness; but the ignorance in agriculture is so great that it abides ever accustomed to one method; and if the tools were clumsy at their first invention, they preserve them ever in their clumsiness; in one

province, one accustomed fashion without any change; in another province, another also without ever changing.

“It is not long since I was in the province of Bearn and of Bigorre; but in passing through the fields, I could not look at the labourers without chafing within myself, seeing the clumsiness of their implements: and why is it that we find no well-born youth, who studies as much to invent tools useful to his labourers as he takes pains over the cutting of his coat into surprising patterns: I cannot contain myself to talk over these things, considering the folly and the ignorance of men.”

“The cutting of his coat into surprising patterns” was a task which Palissy just now was spared the pains of undertaking for himself; poverty looked at his garments, and was hard at work for him on the hole-making part—in those days not a small part—of a tailor’s duty. From this short wandering among the wealth of Bernard’s mind, we must return now to the worldly wretchedness that he endured at home, and to his unrelaxed exertions in that labour which had yet to find success, and earn its fair requital from the world.

CHAPTER XIII.

PALISSY BECOMES A POTTER.

BERNARD PALISSY, plunged in disaster, nevertheless had reason to be sure that he had discovered the profitable art of which he had been for the last six or seven years in search. High as his faith then was in himself, the faith of other men in him had never been so weak as at that most critical point in his whole struggle. His assault upon the floors and tables, reasonable and judicious as undoubtedly it was, had suffered judgment at the hands of all his neighbours. The result of that act, as it concerned himself, had been, that he had produced some melting of his enamel over the common household jars which he had purchased; they were whitened. Family and friends might cry that he was mad, but he had gained the desired knowledge, and the difficulty now was, overwhelmed with poverty, to make a proper use of it. One question, too, he had to put to himself, as we have already seen,—“How will you feed your family, and buy whatever things are

requisite to pass over the four or five months which must elapse before you can enjoy the produce of your labour? Then," he says, "when I was thus seized with sorrow, and debating in my spirit, hope gave me a little courage." The man of genius who hopes and strives will never be defeated in his efforts to achieve whatever man can do.

Bernard believed firmly that the next batch he baked would begin, for him and his, the long-postponed repayment for their toil and suffering. Comparatively ignorant as he then was of clays, it had occupied him on the previous occasion seven months to mould his vessels. It would be braving death—and not indeed his own, but that of his children—to prolong so tediously the struggle while they all lay ground under the heel of want. Therefore, he tells us, "more promptly to cause to appear the secret which I had discovered of the white enamel, I took a common potter and gave him certain drawings, in order that he might make vessels in accordance with my own designs; and whilst he made these things, I occupied myself over some medallions." These medallions, probably, were figures in relief of natural objects which he proposed to enamel and to paint; they may, however, have been copies of some of the Roman coins and curiosities which were continually being dug up in the town of Saintes, rich, as I have shown already, in antiquities. "But this," adds Bernard, "was a pitiable thing."

Indeed it was. Hope gave him courage to take a step which his wife must have pronounced rash, and over which

she must have grieved abundantly. He was unable to feed his children with his own resources, he was falling into debt, and he engaged now an assistant in the labours which seemed destined to work out his ruin. The wages he engaged to pay the potter whom he hired, he expected confidently to draw out of his furnace; he could not maintain him in his house. His wife could not spare food enough; and if she had been able, would have given to the accomplice of her husband, both before and after meat, a grace that would not have assisted his digestion. It is curious that there could be found at that time an innkeeper in Saintes—but such a man was found—who gave the potter all his meals, and lodged him for six months, putting the cost down to the account of Bernard Palissy. Bernard, however, had in him a purity of spirit which must have inspired many men with confidence in his integrity, who had but small faith in his judgment, and mutual goodwill towards the new religion may have formed a bond between himself and the confiding publican.

They laboured for six months, during which time the potter worked from the designs supplied to him by Palissy. Then, when there was no more need of the potter's services, he had to be discharged, and of course waited for his wages. Bernard had an empty pocket, and well-nigh an empty house; there remained little to strip except his person; so when the potter went, says Palissy, "for want of money, I was forced to give part of my clothes for wages."

Being left alone, he had to make an improved furnace. "Then," he tells us, "because I had not any materials for the erection of my furnace, I began to take down that which I had built after the manner of the glass-workers, in order to use the materials again. Then, because the said furnace had been so strongly heated for six days and nights, the mortar and the brick in it were liquefied and vitrified in such a manner, that in loosening the masonry, I had my fingers bruised and cut in so many places, that I was obliged to eat my pottage with my fingers wrapped in rags.*

"When I had pulled down the said furnace, it was requisite to build the other, which was not done without much difficulty; since I had to fetch for myself the water, and the mortar, and the stone, without any aid and without any repose. This done, I submitted the beforenamed work to the first baking, and then, by borrowing, or in other ways, I found means to obtain materials for making the enamel for the covering of the said work, which turned out well from the first baking; but when I had bought the said materials, there followed a labour for me which appeared to baffle all my wits; for, after I had wearied myself through several days in pounding and calcining my chemicals, I had to grind them, without any aid, in a hand-mill which it usually required two strong men to turn: the desire which I had to succeed in my enterprise

* "In France, at the end of the sixteenth century, forks even at court were entirely new."—*Beckman's Hist. of Inventions.*

made me do things which I should have esteemed impossible. When the said colours were ground, I covered all my vessels and medallions with the said enamel; then, having put and arranged them all within the furnace, I began to make the fire, thinking to draw out of my furnace three or four hundred livres, and continued the said fire until I had some sign and hope of my enamels being melted, and of my furnace being in good order."

This time Palissy was right in all his calculations; his furnace was so much improved, and his enamel so correctly mixed, that one day was sufficient for the melting. But a mischance had happened upon which he had not calculated, and thus he tells us that, "the next day, when I came to draw out my work, having previously removed the fire, my sorrows and distresses were so abundantly augmented that I lost all countenance."

The enamel was right, the furnace was right, but the whole work was spoilt. The elaborate designs, the play of Bernard's fancy as an artist for six months,—the debt incurred for maintenance and wages of the potter, who had wrought his fancy out upon the clay,—the hands wounded with labour at the furnace,—the money begged and borrowed to buy chemicals,—the weeks of drudgery in grinding, the hope and self-denial of eight months,—all led to "sorrow and distresses so abundantly augmented." Yet the enamel was right, and the fire was effectual, and all Bernard's speculations had been perfectly fulfilled. Why then was all his labour lost?

“It was because the mortar of which I had built my furnace had been full of flints, which, feeling the vehemence of the fire (at the same time that my enamels had begun to liquefy), burst into several pieces, making a variety of cracks and explosions within the said furnace. Then, because the splinters of the flints struck against my work, the enamel, which was already liquefied and converted into a glutinous matter, retained the said flints, and held them attached on all sides of my vessels and medallions, which, except for that, would have been beautiful.” Palissy says but a few touching words about his grief: “Then I was more concerned than I can tell you, and not without cause, for my furnace cost me more than twenty-six gold dollars. I had borrowed the wood and the chemicals, and so had borrowed part of my hope of food in making the said work. I had held my creditors in hope that they would be paid out of the money which would proceed from the pieces made in the said furnace; which was the reason why several began to hasten to me after the morning when I was to commence the drawing of the batch.”

Palissy had referred all things to this day, which was to have extricated him from his embarrassment and misery. The poor are always promise-breakers. The rich man, if one expectation fails, is able to fall back on his reserves. The poor man, when he is in debt, compelled to pay his expectations out as promises, has fifty broken promises charged at his door for every unforeseen mischance that

baulks his foresight. Palissy could not have foreseen the misadventure which made the long-anticipated day of his deliverance, the day of his descent into new depths of sorrow. He had expected three or four hundred livres. "I received," he says, "nothing but shame and confusion; for my pieces were all bestrewn with little morsels of flint, that were attached so firmly to each vessel, and so combined with the enamel, that when one passed the hand over it, the said flints cut like razors. And although the work was in this way lost, there were still some who would buy it at a mean price; but, because that would have been a decrying and abasing of my honour, I broke in pieces the entire batch from the said furnace, and lay down in melancholy—not without cause, for I had no longer any means to feed my family. I had nothing but reproaches in the house; in place of consolation, they gave me maledictions. My neighbours, who had heard of this affair, said that I was nothing but a fool, and that I might have had more than eight francs for the things that I had broken; and all this talk was brought to mingle with my grief."

"And all this talk was brought to mingle with my grief!" If one could sketch a scene like this with the pencil of a master, it would make a goodly picture. The dilapidated outhouse, its breaches rudely filled up with green boughs; Palissy grand in his own grief, tattered in dress, with a litter of beautiful vases, cups, urns, and medallions, the products of his rich taste and fancy, broken at his feet;

the angry creditors ; the village gossips pouring their much talk over his bowed spirit ; his thin, pale children crouching, wondering, about ; his lean wife—God forgave her on the instant—pouring on him maledictions, ignorant or careless how his heart would open in that hour of anguish to receive one syllable of woman's consolation.

Palissy retired into his chamber, and lay down upon his bed. He had done well to break his vessels. His skill as an artist, and his really discovered secret of the white enamel, placed before him a wide field for ambition. He meant to produce costly articles of luxury, and he could not afford, because the flints had speckled them, to hurt his future reputation by sending his rich creations into the world at the price of well-side pitchers. Princes were to be his paymasters. But he had no longer any means to feed his family. His wife could not forget that ; and he might have had more than eight francs for the things that he had broken.

If the wife could have seen and understood the spirit of her husband, she would have followed his melancholy step when he withdrew to the recesses of his chamber.

Confusion, shame, melancholy, grief, Palissy connects with this event ; but he has never named the word despair. He retired from the discussions of his neighbours, missing painfully the consolation of his wife ; but he retired to have his own discussion in himself, to ascertain in peace what was his present duty. We have already seen enough of Bernard Palissy to know that he is not likely to bow his

head, and own that he is vanquished by the most imperious of difficulties. After experiencing this last severe rebuff, Palissy withdrew into his chamber; and there, he says, "when I had remained some time upon the bed, and had considered within myself, that if a man should fall into a pit, his duty would be to endeavour to get out again"—a very simple rule, which all men have not strength enough to follow; they often die while they are waiting to be pulled out—"I," Palissy adds, "being in like case, set myself to make some paintings, and in various ways I took pains to recover a little money."

That is to say, he tranquilly abandoned his experiments, while he devoted himself for a short time wholly to the repair of his household fortunes. People thought him a good painter, and as he had by no means glutted his market lately in that character, he probably found it not difficult to sell the sketches that he made. About their price he was not at all proud or particular. He drew from nature with minute accuracy, and was versed in the common details of a painter's art; but his genius had dwelt upon the works of masters, and he thought, therefore, but little of his own. People, he said, "thought him a better painter than he was."

Having paid just attention to these things, and with, perhaps, about a year's toil having revived some of the gloss on his establishment, and earned a little money in reserve, Palissy was at leisure to resume his enterprise. "I said within myself, that my losses and hazards were all

past, and there was no longer anything to hinder me from making good pieces; and I betook myself (as before) to labour in the same art."

The date at which this narrative now stands is the year 1549. A king of France died by way of portent when Palissy was tearing up his floors, and Francis the First has been succeeded by his son, Henry the Second. In the year 1549, Palissy was about forty years old, and his labour to invent enamelled ware had been spread over a period of some eight years. It cost him eight years more, but the worst portion of his toil was over. Palissy had now only to learn the temper of his clays, and buy with experience a knowledge of those numerous mishaps which practical potters only can appreciate, and against which, in those days of rude appliances, incessant watchfulness was needed. The mishaps, at first, were lamentably frequent. The very next batch of vessels with which Palissy endeavoured to redeem his credit, and for which he built another furnace, carefully eschewing flints, was lost as unexpectedly as its predecessor, "for there occurred an accident of which I had not thought; for the vehemence of the flame of fire had carried a quantity of ashes against my pieces; so that in those parts which had been touched by the ashes, my vessels were rough and ill-polished; because the enamel, being liquefied, had united with the said ashes. In spite of all those losses, I remained in hope of remounting in fortune by the said art; for I caused to be made, by certain potters, a large number of earthen lanterns, to

contain my vessels when I put them in the furnace, in order that, by means of the said lanterns, my vessels might be protected by the ash. The invention proved a good one, and has served me to the present day."

During the next two years Palissy prospered little; he made, indeed, vessels of different colours, which kept house tolerably, and enabled him to abide by his furnace, losing the greater part of his more ambitious work by various mischances; "as, when I had made a batch, it might prove too much baked, or another time, too little, and all would be lost in that way. I was so inexperienced that I could not discern the too much or too little. One time my work was baked in front, but not baked properly behind; another time I tried to obviate that, and burnt my work behind, but the front was not baked at all; sometimes it was baked on the right hand, and burnt on the left; sometimes my enamels were put on too thinly, sometimes they were too thick, which caused me great losses; sometimes, when I had in the furnace enamels different in colour, some were burnt before the others had melted."

These difficulties belonged to his whole career as a potter, but, of course, more especially to the first years. Then there were difficulties in the choice and management of clays. They differ greatly in their nature. "Some are sandy, white and very thin, and for these reasons a great fire is needed before they are baked properly." "There are other kinds which, when they are baked,

whether in pottery or in bricks, it is needful that the master of the work take good heed in drawing his affair from the furnace, lest it take cold; and, what is more, those who work with it are constrained to stop all the vent holes of their furnace as soon as their batch is baked, because if it felt the very slightest wind in cooling, the pieces would all turn out cracked." Other kinds Palissy enumerates, and by way of illustration, "once," he says, "I had collected some of the earth of Poitou, and had laboured upon this for the full space of six months before I had my batch complete, because the vessels that I had made were very elaborate, and of a somewhat high price. Now, in making the said vessels of the earth of Poitou, I made some of them of the earth of Xaintonge, on which I had worked for some years before, and was sufficiently experienced in the degree of the fire which was needed by the said earth, and thinking that all earths might bake at a like degree. I baked my work which was earth of Poitou, among that of earth of Xaintonge, which caused me a great loss; inasmuch as the work in earth of Xaintonge being baked sufficiently, I thought that the other work would be so too; but when I came to enamel my vessels, those feeling the moisture, it was an unpleasant joke for me; because as many pieces as were enamelled, came to dissolve and fall to pieces, as a limestone would do soaked in water; and at the same time the vessels of the earth of Xaintonge were baked in the same furnace, and at the same degree of heat as the above named, and

turned out very well. You see, then, how a man who labours in the art of earth is always an apprentice, because of the unknown nature of the diversities of earth.”*

“ Then, because my enamels did not work well together on the same thing, I was deceived many times; whence I derived always vexation and sorrow. Nevertheless, the hope that I had caused me to proceed with my work so like a man, that often to amuse people who came to see me, I did my best to laugh, although within me all was very sad.”

Great strength of body must have enabled Palissy to endure, in addition to privation and distress, the intense toil to which he subjected himself in the prosecution of his struggles. But his physical frame bore strong marks of the contest. “ I was for the space of ten years,” he says, “ so wasted in my person, that there was no form nor prominence of muscle on my arms or legs ; also, the said legs were throughout of one size, so that the garters with which I tied my stockings, were at once, when I walked, down upon my heels, with the stockings too. I often walked about the fields of Xaintes considering my miseries and weariness, and, above all things, that in my own house I could have no peace, nor do anything that was considered good. I was despised and mocked by all.” More than

* From the treatise *Des Terres Argiles*, much of which will be found translated at the end of these volumes, under the title of “ The Potter’s Clay.” The other words of Palissy used in this chapter are from *L’Art de Terre*, which, under title of “ The Artist in Earth,” will be found complete in the Appendix.

once breaks out this yearning for domestic love, so simply, with so quaint a pathos, that we sometimes half wonder how a man so loveable could be denied the consolation of domestic sympathy. But it is nothing strange; it would have been more strange had he been mated with a wife as capable as he himself was of endurance.

She was afflicted with more grief than I have named; her family was large, but death had removed six of her children. In one of his treatises,* speaking of wormwood, Palissy says, "before I knew the value of the said herb, the worms caused me the death of six children, as we discovered both by having caused their bodies to be opened, and by their frequently passing from the mouth, and when they were near death the worms passed also by the nostrils. The districts of Xaintonge, Gascony, Agen Quercy, and the parts towards Toulouse are very subject to the said worms."

It is very characteristic that Palissy should not have rested satisfied until he had assured himself, by causing a *post mortem* inspection, of the reason of his children's death. These deaths concern us now as representing to Bernard and his wife an additional large source of pain; the wife might well be dulled in spirit, might easily be broken down into a scold, by poverty and sorrow.

Just now I spoke of the dilapidated outhouse in which the furnaces of Palissy were built. It was, of course, absolutely necessary for the success of his work that his fur-

* *Des Sels Divers*. Not translated in the Appendix.

naces should be protected from the wind and rain; but to get such protection was not by any means an easy matter. Since there could be no space for a furnace in any room of a small suburban house, Palissy had to make not only a furnace but a shed; and the amateur roofing of a man who had no money to buy materials, was of a character extremely trying to the temper of his wife. At first he borrowed laths and tiles—his clumsy work soon fell into decay; the wind and rain spoilt more than half of it; protection was essential, means of getting it in any usual way did not exist, and Palissy was glad to patch his shed in a rude manner with green boughs and sticks, until he could afford a little money upon more effectual contrivances. These shiftings and changes, of course, fell under the judgment of the entire population of judicious neighbours. In a provincial town with about ten thousand inhabitants, every man is plagued with officious neighbours to the number of nine thousand, nine hundred, and ninety-nine. Then,—when the holes in his outhouse, on a rainy, windy night, were letting in such blasts as promised the destruction of some costly work,—Palissy did not comfort his wife greatly by awakening her with the noise he made in wrenching off perhaps her bedroom door; which, for want of other material, he was obliged to use, at one of his critical moments, for the patching of his ruinous outbuilding. The wife had not enough philosophy to feel that doors, and tables, and house-nails, were such accidents of life as could be parted with for the

attainment of an object intellectually high ; an object, even in a worldly sense, worth many doors, and nails, and tables. Every day she went out telling new distresses to her neighbours in the town ; and every night when Palissy came up to bed, perhaps arousing her long after midnight, cold, wet through, and stupid with work, she administered to him the wholesome cordial of a curtain-lecture. We will let Palissy state his own case in the matter, and then let women of England judge whether they would not, to a woman, have resented his behaviour.

“I had another affliction, allied with the before named, which was that the heat, the cold, the winds, and rains, and droppings, spoilt the largest portion of my work before I baked it ; so that I was obliged to borrow carpentry, laths, tiles, and nails, to make shift with. Then, very often having nothing wherewith to build, I was obliged to make shift with green boughs and sticks. Then again, when my means augmented, I undid what I had done, and built a little better ; which caused some artisans, as hosiers, shoemakers, sergeants, and notaries, a knot of old women—all those, without regarding that my art could not be exercised without much space, said that I did nothing but boggle, and blamed me for that which should have touched their pity, since I was forced to use things necessary for my house to build the conveniences which my art required ; and, what is worse, the incitement to the said mockeries proceeded from those of my own house, who would have had me work without ap-

pliances—a thing more than unreasonable. Then, the more the matter was unreasonable, the more extreme was my affliction. I have been for several years, when, without the means of covering my furnaces, I was every night at the mercy of the rain and winds, without receiving any help, aid, or consolation, except from the owls that screeched on one side, and the dogs that howled upon the other; sometimes there would arise winds and storms, which blew in such a manner up and down my furnaces, that I was constrained to quit the whole with loss of my labour, and several times have found that, having quitted all, and having nothing dry upon me because of the rains which had fallen, I would go to bed at midnight, or near dawn,* dressed like a man who has been dragged through all the puddles in the town, and turning thus to retire, I would walk rolling, without a candle, falling to one side and the other like a man drunk with wine, filled with great sorrows, inasmuch as, having laboured long, I saw my labour wasted; then, retiring in this manner, soiled and drenched, I have found in my chamber a second persecution worse than the first, which causes me to marvel now that I was not consumed with suffering.”

Worse than wind and rain and ruin, was the want of a wife's sympathy in those hours of fatigue and suffering; but I should like to hear of any British matron who is

* The reader will remember Beza's wonder that Calvin should have studied until midnight. The night of work, the retirement at midnight, or “near dawn,” contrasted more strongly then than it now does with the habits of the people.

shocked at the behaviour of the wife of Palissy. She had not her husband's courage for a journey among thorns; and truly, there are few men who, for any object, would have courage to go far through such a thicket as that from which we now discover Palissy at length emerging.

It occupied him for fifteen or sixteen years to teach himself by his own genius, without aid from without, the full perfection he attained in the moulding and enamelling of ornamental pottery. During the last eight of these, however,—more especially during the last six,—he produced many things in his vocation as a potter which enabled him to keep his family in tolerable comfort. At the tenth year he might have stopped and rested comfortably on his profitable knowledge, but Palissy never did stop, he never did account himself to have attained an end; to the eye of his genius there lay always before every range of thought a long vista of almost infinite improvement. Palissy was at no time satisfied with his attainments: no man with a grain of true philosophy within him ever yet has been self-satisfied. After fifteen or sixteen years, Palissy took heart to call himself a potter; but he still laboured ever to advance in his own art, still spent a large part of his earnings in experiments and labours, tending to a point of excellence not yet attained. The sixteen years formed his apprenticeship. “I blundered,” he says, “for the space of fifteen or sixteen years. When I had learnt to guard against one danger, there came another, about which I had not thought. During this time I made several furnaces,

which caused me great losses before I understood the way to heat them equally. At last I found means to make several vessels of different enamels, intermixed in the manner of jasper. That fed me for several years; but while feeding upon these things, I sought always to work onward with expenses and disbursements—as you know that I am doing still.* When I had discovered how to make my Rustic Pieces, I was in greater trouble and vexation than before; for having made a certain number of rustic basins, and having put them to bake, my enamels turned out, some beautiful and well-melted, others ill-melted; others were burnt, because they were composed of different materials, that were fusible in different degrees—the green of the lizards was burnt before the colour of the serpents was melted, and the colour of the serpents, lobsters, tortoises, and crabs, was melted before the white had attained any beauty. All these defects caused me such labour and heaviness of spirit, that before I could render my enamels fusible at the same degree of heat, I thought I should be at the door of my sepulchre.”

A stranger to the kind of ware produced by Palissy may fairly wonder what he means by his mysterious allusions to the green of the lizards, the colours of the serpents, the enamelled lobsters, tortoises, and crabs. The pottery made by Bernard Palissy, of which, under the name of Palissy ware, exquisite specimens are still existing, was of

* Some twenty years after the expiration of his first sixteen.

a kind extremely characteristic of its maker. He wished to make beautiful things, but he was a naturalist, and his sense of beauty was his sense of nature. To reproduce upon his ware the bright colours and elegant forms of plants and animals over which he had hung so often with his pencil in the woods and fields,—combining his qualities of naturalist and potter,—he founded his reputation on the manufacture of what he called Rustic Pieces. The title which he took for himself was that of Worker in Earth and Inventor of Rustic Figulines (small modellings) —Ouvrier de Terre et Inventeur des Rustiques Figulines. These rustic figulines were, in fact, accurate models from life of wild animals, reptiles, plants, and other works of nature, tastefully combined as ornaments into the texture of a vase or plate. The rich fancy of Palissy covered his works with most elaborate adornment; but his leaves and reptiles, and other “rustic” designs, are so copied in form and colour with the minute accuracy of a naturalist, that the species of each can be determined accurately. There has been found scarcely a fancy leaf, and not one lizard, butterfly, or beetle, not one bit of nature transferred to the works of Palissy, which does not belong to the rocks, woods, fields, rivers, and seas of France.*

* Mr. Marryat, a connoisseur in porcelain and fancy pottery, says of the Palissy ware, “The natural objects which are placed upon this fayence are very true in form and colour; for, with the exception of certain leaves, all were moulded from nature. The choice he has made shows that this potter was a skilful naturalist; for the fossil shells with which he has ornamented his different pieces, are the tertiary shells of

Enough has now been said concerning the toils of Palissy during his sixteen years' struggle to acquire the art of manufacturing enamelled pottery. The close of that period will bring us to the year 1557, the age of Palissy then being about forty-eight. At this point, therefore, we leave the history of Palissy the Potter, to chronicle the toil of the same active mind on other paths of progress.

the Paris basin, and their species can be clearly recognised. The fish are those of the Seine; the reptiles and plants of the environs of Paris. There is no foreign natural production to be seen on his ware." It is not at all requisite to bind Palissy to Paris for his models, as Saintonge lies also upon tertiary clay. But we shall see hereafter that the neighbourhood of Paris must have furnished him with many subjects.

CHAPTER XIV.

THE REFORMED CHURCH AT SAINTES.

“THERE was in this town a certain artisan, marvelously poor and indigent, who had so great a desire for the advancement of the Gospel, that he demonstrated it every day to another as poor as himself, and with as little learning, for they both scarcely knew anything ; nevertheless, the first urged upon the other that if he would employ himself in making some form of exhortation, that would be productive of great fruit.”*

The “certain artisan, marvellously poor and needy,” would have been named, had he been any other man than Palissy himself. The mode of expression, and the known character of Bernard, leave us very little room for doubt that it was he who, in the days of his hard struggling, being unable to find consolation in the orthodox services of the town, satisfied the strong devotional im-

* Words of Palissy, used in this chapter, are all from a work which will be found entire in the Appendix.

pulses of his character by studying the Scriptures daily with one poor companion. The writings of Palissy display throughout a close and reverent acquaintance with the Bible; his quaint cheerfulness of temper, his artless, simple-minded style, are beautifully mingled in his works with a solemnity of religious feeling, that would have led to asceticism any man with a less healthy intellect. The grave, uncompromising piety of the Huguenot, who knew that he might be called upon to die for his faith, formed a large feature in the character of Palissy. Very earnestly he sought after religious truth, and what he thought, he spoke with perfect fearlessness. We have found out by this time, that when his way was chosen, it formed no part of the character of Palissy to flinch from trouble.

Bernard, then, while he toiled and suffered in acquiring the skill which was to make him immortal in the history of art—Bernard, at that time “marvellously poor and indigent,” demonstrated the truths of Scripture daily to another man, poor like himself. Then, distrustful of his power or his leisure to prepare for a more public exposition, he communicated to his friend the impulse of his own active spirit, and urged him to “employ himself in some form of exhortation, that would be productive of great fruit.”

His friend felt himself to be too simple and unlearned, but the persuasions of Bernard gave him courage; “and some days afterwards,” Palissy tells us, “he assembled, one Sunday in the morning, nine or ten persons, and be-

cause he was ill versed in letters, he had taken some passage from the Old and New Testament, having them put down in writing. And when they were assembled, he read to them the passages and texts, saying : ‘ That each man, according to the gifts he had received, should distribute them to others ; and that every tree which bore not fruit, would be cut down and cast into the fire.’ Also, he read another text taken from Deuteronomy, where it is written : ‘ Thou shalt declare my words, when thou sittest in thine house, and when thou walkest by the way, when thou liest down, and when thou risest up ; and thou shall write them on the door-posts of thine house, and on the gates.’ He proposed to them, also, the parable of the talents, and a great number of such texts ; and this he did, tending towards two good ends : the first was to show, that it was the duty of all people to speak of the statutes and ordinances of God, and that his doctrine might not be despised on account of his own abject state ; the second end was to incite certain auditors to do as he was doing ; for in this same hour they agreed together that six from among them should make exhortations weekly—that is to say, each of the six once in six weeks, on Sundays only. And because they undertook a business in which they had never been instructed, it was said that they should put their exhortations down in writing, and read them before the assembly. * * That was the beginning of the Reformed Church of the town of Xaintes.”

Palissy adds, “ I am sure there was, at the beginning,

such a congregation, that the number was of five alone." Each of the six took his turn to be the preacher to five listeners, and of these Palissy was one ; his name is chronicled in a contemporary list of preachers. Six poor and unlearned men, among not a few who were infected with the taint of heresy, were all who had the boldness, with grave faces and determined minds, to form themselves into a Church in that town, which had so recently beheld the burning of a heretic. Poor as they were, perhaps they were below the wrath of a grand-vicar, and it may be that M. Collardeau had warmed himself sufficiently at the first bonfire of his making.

But there was imprisoned in the town of Saintes, and through the zeal of this fiscal attorney, Collardeau, "one named Master Philebert Hamelin." Philebert had taught the Reformed doctrine, and had contributed by his advice some part of the impulse towards that formation of a little Church, which took place while he was in prison. By some dissembling of his faith, for which he afterwards "had always a remorse of conscience," Philebert obtained his freedom at that time, and travelled to Geneva. There, at the head-quarters of the French reformers, he acquired a great increase of earnestness ; "he enlarged," Palissy tells us, "at the said Geneva, both his faith and doctrine. Then," continues Bernard, "because he had dissembled in his public confession in this town, and wishing to repair his fault, he exerted himself, wherever he went, to incite men to have ministers, and to erect some kind of

church, and so travelled through the lands of France, having some servants who sold bibles, and other books printed in his press. For he had given his mind to it, and made himself a printer. In doing this, he passed sometimes through this town, and went also to Allevert. Now he was so just, and of so great a zeal, that although he was a man ill capable of walking, he would never accept horses, although many urged him so to do with full affection. And being slenderly provided as to the where-with, he took with him no other outfit than only a simple staff in his hand, and went his way alone, in this manner, without any fear.

“ Now it occurred one day, after he had concluded some prayers and little exhortations in this town—having at most seven or eight auditors—he went upon his way to Allevert, and, before parting, he prayed the little flock of the assembly to congregate themselves, to pray, and to exhort one another; and so he went to Allevert, labouring to win the people to God; and there, being received kindly by the chief part of the people, brought them by the sound of a bell to certain sermons, and baptized a child. Seeing which, the magistrates of this town constrained the bishop to produce money for the maintenance of a pursuit of the said Philebert, with horses, gensd’armes, cooks, and sutlers.”

The quick, painter’s fancy of Palissy, and the clearness of thought which guides him always to the fittest words, have filled his works with a great deal of picture-writing.

Nothing could be more happily sketched than this representation of Philebert, "a man ill capable of walking, who took with him no other outfit than only a simple staff in his hand, and went his way alone in this manner, without fear," to whom Palissy drily appends a pursuit "with horses, gensd'armes, cooks, and sutlers."

Undoing as they could the mischief that had been done by the heretic, the bishop and certain magistrates of Saintes betook themselves to the scene of the calamity, and caused the child which had been baptized by Philebert to be re-baptized into orthodoxy. Philebert was taken in the mansion of a gentleman. "And so," says Palissy, "they brought him into this town, as a malefactor to the criminals' prisons, although his works give certain witness that he was a child of God and truly of His chosen. He was so perfect in his works that his enemies were compelled to own that he was of a holy life, always without approval of his doctrine."

This second imprisonment of Philebert Hamelin took place in the beginning of the year 1557, the date named at the end of the preceding chapter, as the last year of Bernard's first sixteen as a potter. The date concerns us, because Philebert Hamelin commanded the love and reverence of Bernard Palissy, and there is connected with this event a circumstance which admirably illustrates the potter's earnest character. Notwithstanding all the terrors threatened against heretics, Bernard Palissy spent his whole energy, when Philebert was cast into prison, in

labour on his friend's behalf. Careless of any danger to his own life (and we shall hereafter see that he incurred no trifling risk), the grand-hearted potter visited six of the chief judges and magistrates, attacking each of them in his own house with a bold remonstrance. Revealing his own heresy to men bound to condemn it, was nothing; he thought only of doing battle against a monstrous wrong, and proclaiming the virtue of Philebert, who had been, since the old time when he was in Saintes, before his previous imprisonment, until now, for eleven years, his venerated friend.

“ I am full of wonder,” Bernard says, “ that men should have dared to sit in judgment of death over him, seeing that they knew well, and had heard, his blameless conversation ; for I am assured, and I can say with truth, that after the time when he was brought into the prisons of Xaintes, I mustered hardihood (although the days were perilous in those times) to go and remonstrate with six of the principal judges and magistrates of this town of Xaintes, that they had imprisoned a prophet or an angel of God, sent to announce his word and judgment of condemnation to men in the last days; assuring them that for eleven years I had known the said Philebert Hamelin to be of so holy a life, that it seemed to me as if the other men were devils when compared to him. It is certain that the judges used humanity towards myself, and heard me kindly: also I spoke to each of them in his own house.

“ Finally, they treated with tolerable kindness the said

Master Philebert, although they could not acquit themselves of being guilty of his death. True it is they did not kill him, as Pilate and Judas did not kill the Lord ; but they delivered him into the hands of those by whom they knew well that he would be slain. And the better to come by a wash for their hands that would acquit their hearts, they reasoned that he had been priest in the Roman Church ; therefore they sent him to Bourdeaux, with good and sure guard, by a provost-marshal.

“ Would you know,” continues Palissy, revealing much of his own character while he applauds his friend—“ would you know how holy was the life of the said Philebert ? Liberty was given to him to live in the apartment of the gaol-keeper, and to eat and drink at his table, which he did while he was in this town. But after, for many days, he had laboured and taken pains to repress the gambings and blasphemies which were committed in the chamber of the gaol-keeper, it was so displeasing, seeing that they would not check themselves, that to prevent himself from listening to such evil, as soon as he had dined, he caused himself to be led into a criminal cell, and remained there the whole day long in solitude, to avoid the evil company.

“ *Item.* Would you know still better how he walked uprightly ? To him, being in prison, there came an advocate of France, belonging to some region in which he had founded a little Church, which advocate brought three hundred livres, which he offered to the gaol-keeper, provided he would, at night, put the said Philebert outside

the prisons. Seeing which, the gaol-keeper was almost incited to do it ; he requested, however, to take counsel with the said Master Philebert, who answering, told him, ‘ that it was better worth his while to die at the hands of the executioner, than to expose another man to evil for the good of self.’ Which learning, the said advocate took back his money. I ask you, which is he among us who would do the like, being at the mercy of enemies as he was ? The judges of this town knew well that his life was holy ; nevertheless they acted through fear, lest they should lose their offices : so we must understand it.

“ I was well informed,” adds Bernard, “ that while the said Philebert was in the prisons of this town, there was a person who, speaking of the said Philebert, said to a counsellor of Bourdeaux : ‘ They will bring you, one of these days, a prisoner from Xaintes, who will speak to you well, messieurs.’ But the counsellor, blaspheming the name of God, swore that he should not speak to him at all, and that he should take care not to be present at this judgment.”

It was not in the temper of the sturdy Potter to see wrong committed, and to fold his hands in peace ; we readily anticipate, therefore, his comment on the indolent determination of the counsellor : “ I ask you whether this counsellor called himself a Christian, who would not condemn the just ? At any rate, since he was constituted judge, he will have no excuse ; for while he knew that the other was a good man, he ought with his power to

have opposed the judgment of those, who through ignorance, or through malice, condemned him, delivered him up, and caused him to be hung like a thief, the 18th of April, in the abovenamed year."

That is to say, in the year 1557. A contemporary historian* of the Reform party connects with the death of Hamelin a quasi miracle. A heretic who was to have shared his fate, recanted his opinions to save his life. Hamelin warned him that he would, notwithstanding, die. This companion was assassinated as he left the prison, and Philebert was questioned for the purpose of ascertaining whether his prophecy did not imply complicity. Of course it did not. Indeed, the whole anecdote may be untrue; for there were not a few divine interpositions current, as arguments, among religious combatants on either side. For example, the historian above mentioned cites, with full credence, a contemporary book called "Dan," in which there seems to be collected a most edifying set of stories, about judgment done on persecutors. The following is one: "A Piedmontese in Angrengne, having sworn that he would eat the nose of the pastor, a wolf in broad noon, and before a great multitude, going to this man, devoured his nose, and returned without wounding any other person, as if he had no other business to do." Such tales remind us of the ignorance and superstition proper to the world three centuries ago—conditions

* D'Aubigné's *Hist. Univ.*

which we might too easily forget, while we have our minds intent upon the intellect of Bernard Palissy.

Soon after the commencement of the little Church of Xaintes, while there was still a congregation of no more than about half a dozen—during the first imprisonment of Philebert Hamelin—a minister named De la Place had been engaged; and De la Place had been succeeded after a few years by another minister named De la Boissière. “While the Church was so little,” Palissy tells us, “and the said Master Philebert was in prison, there arrived in this town a minister named De la Place, who had been sent to go and preach in Allevert. But on the same day, the attorney of the said Allevert happened to be in this town, who assured him that he would be very unwelcome there, on account of that baptism which Master Philebert had performed; because several assistants thereat had been condemned to very heavy penalties, and it was for this reason that we prayed the said De la Place to administer to us the word of God; and he was received for our minister, and remained until we had Monsieur de la Boissière, which is he whom we still have at the present time. But this was a pitiable thing, for we had the goodwill, but the power to support the ministers we had not; inasmuch as La Place, during the time that we had him, was maintained partly at the expense of the gentlemen, who frequently invited him.” The pastors of the Reformed faith being superior to the monks in taste and education

formed to courtly men, indifferent about religious strife, agreeable associates. La Place, therefore, had been a frequent guest at the houses of the neighbouring gentlemen; but the stern, rough, earnest artisans who formed the little Church, had doubts concerning the propriety of this arrangement; and Bernard, with manifest pity for the next pastor, who was over-zealously controlled, goes on to relate how, "fearing lest that might not be the means of corrupting our ministers, they advised M. de la Boissière not to leave the town, except with permission, to attend upon the nobility, even though it might be upon urgent business. By such means, the poor man was shut up like a prisoner, and very frequently ate apples, and drank water for his dinner; and for want of tablecloth he very often laid his dinner on a shirt, because there were very few rich people who joined our congregation, and so we had not the means of paying him his salary."

The laws against heresy were so stringent, that the life of any man who was a known heretic depended wholly on the sufferance of his neighbours. In the early years of the Reformed Church at Saintes, it was necessary for the members of the little flock to slip at midnight through the streets, and hold their mutual exhortations under cover of the darkness. But with time, in many parts of France, the manifest contrast between the orderly and upright lives of the new pastors and the abuses of the priesthood, caused the power of the heretics to grow. The sympathies

of the people, the desire of relief from Church burdens which were cruelly unjust, caused many bold, unruly spirits to enter the ranks of the Calvinists, and assume an external show of much ascetic virtue. Many such men, who had thought of political reform alone, afterwards changing sides, let loose the passions which they had so long affected painfully to curb, and were among the wildest spirits in the storm for which the clouds had long been gathering.

There were few places in which the heretics multiplied so rapidly as in Saintonge. Passions were nowhere stronger, no place was more trampled by combatants—it was the scene of many of the maddest contests in the subsequent religious war. The timid beginning, the rapid increase, and, finally, the bold predominance of heretics in Saintes, are all described by Palissy.

“The Church,” he tells us, “was established in the beginning with great difficulty and eminent perils; we were blamed and vituperated with perverse and wicked calumnies . . . Notwithstanding all these things, God so well favoured our affair, that although our assemblies were most frequently held in the depth of midnight, and our enemies very often heard us passing through the street, yet so it was, that God bridled them in such manner that we were preserved under His protection. And when God willed that His Church was manifested publicly, and in the face of day, He fulfilled in our town an admirable work; for there were sent to Toulouse two of the principal chiefs, who would not have permitted our

assemblies to be public, which was the reason why we had the hardihood to take the Market Hall."

Throughout France there was a division among magistrates with respect to the interpretation of the penal edicts against heresy. Men are not by nature devilish, and the extreme severity of law in very many places being odious to its administrators, was either left in the dead letter, or interpreted into a milder spirit. The absence of the two men whose zeal was to be feared, gave a boldness indicating already considerable strength, when it encouraged the reformers to hold their meetings in the Market Hall. The absence of these men was long. Palissy tells us : " God detained them for the space of two years, or thereabout, at Toulouse, in order that they might not hurt His Church, during the time that He would have it to be manifested publicly."

These last events were subsequent to the year 1557. The remarkable prosperity of the Reformed Church of Saintes, which was of brief duration, dates from about 1560. Of Saintes, during this period, Bernard says : " In that way our Church was established: in the beginning, by despised folk ; and when its enemies arrived to waste and persecute it, it had so well prospered in a few years, that already the games, dances, ballads, banquets, and superfluities of head-dress and gildings, had almost all ceased; there were almost no more scandalous words or murders. Actions at law were beginning greatly to diminish; for so soon as two men of our religion began an

action, means were found to bring them to accommodation; and even very often before commencing any suit, one man did not begin to proceed against another until first he had caused him to be reasoned with by members of the Church. When the time came for Easter preparations, many engaged in hatreds, dissensions, and quarrels, were reconciled. The question was not only about psalms, prayers, canticles, and spiritual songs, any more than it was only a quarrel against dissolute and lewd songs. The Church had so well prospered, that even the magistrates had assumed the control of many evil things which were dependent upon their authority. It was forbidden to inn-keepers to have gaming in their houses, or to give meat and drink to people who inhabited houses in the town, in order that the debauched men might be returned to their families. You would have seen in those days, on a Sunday, fellow-tradesmen rambling through the fields, groves, and other places, singing in troops psalms, canticles, and spiritual songs, reading and instructing one another.

“ You would have seen the daughters and virgins seated by troops in the gardens, and other places, who, in a like way, delighted themselves in the singing of all holy things. On the other hand, you would have seen the teachers, who had so well instructed youth, that the children had even no longer a puerility of manner, but a look of manly fortitude. These things had so well prospered, that people had changed their old manners, even to their very countenances.”

Children so well instructed that they lose their puerility of manner, fellow-tradesmen who sing hymns among the fields and groves, would promise little good in our own day. But when a child of fifteen was not too young for the stake, when the daughters and virgins might be stabbed for their singing, and fellow-tradesmen broken on the wheel for exercising liberty of conscience, then it was fit that people should "change their old manners, even to their very countenances;" that they should sternly sing their hymns in the free air of heaven, and defy, when they could, the law that made itself a God over the soul.

CHAPTER XV.

AFFAIRS OF FRANCE.

PALISSY THE POTTER was extremely busy when King Francis the First died. The affairs of Palissy, at that time, concerned us more than the affairs of France; we simply nodded acquiescence to the fact when the state went into mourning, if we were not even perhaps so disrespectful as to neglect it altogether. We have arrived now, however, at a period when the affairs of France are likely often to be the affairs of Bernard Palissy. The Potter has succeeded in his art; he can make articles of luxury which are to be had from no other hands in France; he is a man, therefore, for the luxurious to patronise. We shall find high and mighty personages soon connected with the daily life of the successful artisan. For other reasons also, some of the affairs of France will soon begin to touch the interests of Bernard the Reformer.

We shall, of course, not trouble ourselves about affairs of France, as they have to be told by the historian:

the wars we leave out altogether, and substitute for them a word or two concerning the Fayence of Henry II.; in other respects, our attention has to be confined to things and people that can be common at once to a history of France and to a history of Bernard Palissy.

Let us go back to the reign of the King Francis II., and I. to the year 1545 (he died in 1547); there we touch upon an exemplary slaughter, by the most Christian king, of several thousand heretical Vaudois, massacred horribly, men, women, and children, on the confines of Provence and Venaissin. Yet there were some who, looking at his majesty's alliances with Protestant German princes, accused him of want of zeal against the heretics. "Want of zeal!" cries Mezeray, "when every year heretics were burnt by dozens, sent to the galleys by hundreds, banished by thousands." Yes, indeed, want of zeal. They should have been burnt by thousands, doomed to the galleys by hundreds, and exiled by dozens, had King Francis been in earnest. The Vaudois massacre was something, indeed; but what credit is to be attached to a mere fitful gust of goodness?

And what could be expected in the way of zeal from the head of a court whose manners I dare not whisper into the ears of the modest nineteenth century? The gallant king, the hero of romance and ballad, partner in the Field of the Cloth of Gold, presider at good-old-time tournaments, the "Kaiser Franz" of Schiller's ballad about the Proud Lady and the Glove, lived after a way

from which the pure heart turns with an unutterable loathing. He died in 1547, as kings used once to be fond of dying, with his family about him, giving sage and prudent counsel to his heir, making his farewell bow to this world, with his hand upon the door that led into the next, in a most graceful and becoming manner. The Vaudois massacre rumbled, perhaps, a little in his conscience, but not much; he had already laid any blame connected therewith on the shoulders of his servants.

King Francis left his crown to his son Henry, who had not been always his heir; but the original dauphin, Francis, had been taken already from this world. He died by poison, some said; and so, most undoubtedly, he did. But the poison was of a kind well known to surgeons, and not unfamiliar to the court of France, which sometimes horribly destroys the men who give the rein too freely to their passions. Truly, there was no stake or gibbet in the country able to administer to man so vile a death as that which had deprived King Francis of his eldest son. Though, to be sure, there were not many courtiers in France who would at that time have thought it vile. Why should not scars of love be as well honoured as the scars of war, since there can be no doubt that, as war was understood in those days, they were the result of equally good service to mankind?

Henry, then, as King Henry II., at the age of twenty-nine, in the midst of a general—and, of course, deeply sincere—mourning, succeeded his great father, Francis.

The funeral oration over the late king was pronounced by a most learned man, Pierre du Châtel, latinized Castelan, Bishop of Maçon. The bishop duly pronounced the said oration, which was, as such things ought to be, a tombstone-piece upon the grandest scale. Among other things, it was said by the bishop of the late king, "his death has been so pious, that I think his soul must have flown straight to heaven, without the need of any cleansing in the fire of purgatory." If his life had been pious, that would have been a better recommendation. The only field for ambition—the only luxury for self-love—left upon a death-bed, is to hang out as brilliant a show as possible of moral lights for the illumination of by-standers. I should have doubted, therefore, the bishop's plea for the deplored monarch's exemption from the taxes of the other world. Many worthy auditors not only doubted, but were greatly scandalised at the suggestion. Not that they honoured Francis less than the good bishop did, but that they honoured purgatory more. No man, however pure, however royal, could go into the next world, from this, without passing through the turnpike-gate of purgatory, as established by the holy Church. No doubt there was a carefully-adjusted scale of tolls, and the charge might be inconsiderable for the passage of an orthodox king; but still there would be some charge, and he must pay it. The doctrine of the Bishop of Maçon was heretical and revolutionary. The auditors thus scandalised denounced the bishop to the university; the university regarded the

question as a matter of so much importance, that it sent a solemn deputation to the young king, which was met at the door of the palace by Jean Mendoza, first maître d'hôtel, a witty Spaniard. Mendoza greeted in a friendly way the solemn embassy: "You are welcome, gentlemen; you come to discuss with the grand-almoner the travels of King Francis since he left us, and ascertain what stay he made in purgatory. Walk in, if you please. For my part, I can tell you, I knew our late master very well, and I am sure that he was not the man for stopping long in any place, or about anything. He was always for change in this world, and so he is, no doubt, in the next. If he did drop in upon purgatory, he could not do more than taste the wine and travel on; I know King Francis." Such banter strangled the discussion, and Du Châtel was made grand-almoner next year. That a question like this should have arisen; that, having arisen, it could be destroyed by banter;—that a court like that of King Francis, upon the strength of religious feelings so artificial, should judge to be irreligious, and condemn to death men leading pure, ascetic lives, and mastered by religious feeling so sincere as, for example, that of Palissy;—is matter that suggests a painful aspect of the temper of those wretched times.

So in the year 1547 we have upon the throne of France Henry II., aged twenty-nine—a man with a feeble brain and a strong fist. He was at home in the licence of the court, and he was at home upon the field of battle; as he had

been trained to arms under the Constable Montmorenci, it is not a bad point in him that he retained a pupil-like affection for his ancient leader. On King Henry's accession, the great crowd of nobles round the throne divided itself into four factions, each pledged to the interests of a distinct chief. There were the partisans of the Constable Montmorenci, and the partisans of his great rivals, the House of Guise—the Duke of Guise, a military commander of great skill, and his brother, Cardinal of Lorraine, the same Cardinal of whom we heard the Draper speaking in an early chapter of this narrative. Those were the two parties headed by men; the other two factions were devoted respectively to Diana of Poitiers and to the Queen Catherine of Medicis. As the story of the life of Palissy will shortly flow between banks peopled by the high and mighty of the nation, we shall find it necessary to refresh our memories concerning the position held in France by some of these great people.

The Constable Anne de Montmorenci was, during a large part of his life, next to the king the most important man in France. This personage possessed enormous wealth, and we are presently to see him standing in the first rank among the patrons of that skill which Bernard Palissy has won for himself through so much suffering. The constable, therefore, has a special claim upon these pages. He was born at Chantilli in 1493, and named after Anne of Brittany, his godmother. Godmothers, fortunately, do not often claim the privilege of christening

male children into the female sex. He was a year older than King Francis I., and, having been his playmate when his majesty was Count of Angoulême, had gained in early years an influence over the mind of Francis which was long retained. Young Montmorenci fought in the Italian wars, and was created a marshal in 1522, that is to say, when he was twenty-nine. It is always advisable to connect a man's age distinctly with the events and actions of his life, because their significance is at all times greatly modified by considerations that arise from knowledge of that kind. Montmorenci has been already mentioned as seen by Montluc struggling on foot at the battle of Bicoque. At Pavia he was taken prisoner, and carried with King Francis, his friend, to Madrid. Francis would have retained him as a companion in captivity. Montmorenci, however, having prudently suggested that it would be better that he should return to France and labour about the releasing of his master, this suggestion was thought good. He did so release himself by ransom, and did so labour on the king's behalf with good effect, since he was afterwards made, in reward for his services, governor of Languedoc and grand-master of France. With this last office was connected the administration of affairs.

In 1536, Charles V. made an attempt to subdue France by invasion. Montmorenci, then aged forty-three, commanding the army of defence, ruined the emperor by wise delays, and forced him to retreat, avoiding a battle, the loss of which might for a season have destroyed the monarchy.

The French, even in those days, had a taste for Roman parallels, and they called Anne, Cunctator, or the Fabius of France.

On the 10th of February, 1538, Montmorenci, aged forty-five, was appointed constable, being the fifth of his family who had attained that honour. He was then by far the greatest man in France, and received homage and presents from foreign states, not only of Europe but of Asia, being courted abroad as a man not less mighty than his king. He was an austere man, very much too rough to be agreeable at court; his wealth had become enormous, and he stood upon the pinnacle of power. There is not much room for a man's feet upon that pinnacle, and Montmorenci slipped, as they who are in his position generally do. He was disgraced in 1541, three years after he was made a constable; deprived, to be sure, of no office or possession, losing nothing but the royal favour; and he dispensed proudly with that, retiring to his birthplace of Chantilli, where he lived in a state of sullen grandeur till King Francis died. Why he was disgraced it is not easy to tell; some hold him to have been so rough a bear among the perfumed ladies who were powerful at court that they all set their wits against him; others say that the king was jealous of the close attachment between Montmorenci and his son Henry; certainly, among the death-bed advice of the king was an item, that Henry ought not to recal Montmorenci from seclusion.

Henry did not keep that precept, for upon the death of

Francis he lost no time in summoning his friend the constable to court, where he styled him Compeer, as a man who was his equal, and received him with a manifest affection. Constable Montmorenci, therefore, at the age of fifty-four, returned to court, and was the head acknowledged by one of the four court factions by which the throne of the new king was surrounded.

In political affairs rivalry meant enmity, three centuries ago. Therefore the Guises and their friends, rivals of Montmorenci, used against and suffered at the hands of the Montmorenci faction all the tricks and stratagems which a court enmity dictates.

And then there were the two ladies and their partisans. There was Diana of Poitiers, or of St. Vallier, widow of Louis de Biézé, Grand-Seneschal of Normandy. She bore the honourable title of King's Mistress, and was made Duchess of Valentinois. This lady had made her first appearance some time since at the court of King Francis, in the interesting character of a distressed damsel pleading for her father. King Francis appreciated her beauty; she went home affected by his knightly courtesy. After her husband's death, she came to reside permanently at the court of Francis; and there, seeing that the education of Prince Henry was very much neglected, she undertook to play the part of governess to the boy, after a fashion of her own. She begged him of King Francis for her chevalier; the best way to touch the understanding, she said, was through love. So, though she was a widow with

more than one marriageable daughter to dispose of, she took the boy Henry for her knight. The youth was pleased; the attention of a full-sized woman greatly flatters a three-quarter-sized man: the only curious part of the transaction is, that Henry clung as firmly to his mistress in love and peace as he had clung to his master in war. Diana of Poitiers maintained her ascendancy as well as Montmorenci maintained his, during the whole life of the king. Diana held a brilliant court, and was a little more to King Henry than his wife, though it is quite possible that she was king's mistress only according to the old knightly meaning of the word. Nothing opposes itself to that supposition but a knowledge of the intense grossness of court morals during Henry's reign. They had been licentious under King Francis; but under Henry, who had much of the camp breeding in himself, the film of outward courtesy, the elegant gloss and fiction of speech, the polite *double entendre*, and all such devices which at least make payment of a tacit tribute to the sense of what is decent,—these were laid aside, and the bare, hard brutality of a licentious camp furnished a model for the conduct of the court of France. Diana of Poitiers then was the head of the third faction of courtiers.

But the poor queen, the wife of Henry!—if it were only possible to pity her. She was twenty-eight years old when her husband succeeded to the throne. King Francis had allowed his son Henry to marry her, because in the first place he wanted money, and her father Lorenzo

was rich; in the second place, because he did not greatly care for his son Henry, and did not mind throwing him away upon a girl who was an unequal match, for he did not then suppose that Henry would ever come to be a king, and make a queen of her. Thus Catherine of Medicis found herself looked down upon from all sides, as an insignificant person whose alliance conferred anything but honour on the royal blood of France. Pitiable as her position was, she needed no man's pity. She was not trained to very tender feelings, and she was diplomatist enough to show a smooth face to the world, though she knew that she was pretty widely hated, and that she had a pretty wide circle of hates to pay back in return. Petty princes are profound in all minor diplomacy, and Catherine's mind had been fed early with that kind of meat. So when her husband became king, and she was Queen Catherine, and had her own faction at court, she outwardly professed the gentlest feelings towards Diana of Poitiers, towards the Duke or Cardinal Guise, and towards Montmorenci, although their mutual hatreds and their factions were notorious. She was a pretty and a witty woman, and during the life of King Henry, she allowed him to pay what attentions he would to Diana, while she waited with a great appearance of placidity in the background, among all the overruling influences of the court. She caressed Diana, flattered the rugged constable, and so became, after all, a woman of great power before she was nailed down into her coffin.

In the midst of these factions lived King Henry, getting up at seven, and going to bed at ten; between those hours, one would think, not the happiest of men. The business at court of each faction was to get what it could, and to keep what it could out of the getting of the other three. Whenever a living, or estate, or appointment, however small, had fallen, or was about to fall, into the king's gift, there was a rush, not of obsequious beggars, but of tyrannical exacters. The small men of each faction formed a network of spies over the country, who reported to its chief any mouthful that they met with anywhere worth picking up. Of this the Draper has told us something in his eulogy upon the Cardinal de Guise. Perhaps the king had promised something to a friend of his friend Montmorenci; then the next day there would come to him the Duke of Guise, with his proud, stern face of military command, and he would ask for it. The king would murmur, Montmorenci;—say the place was given. Whereupon the duke would so argue down his majesty, that in the end—and I relate what is recorded of one such occasion—the king did not dare to fulfil his promise to Montmorenci, because he feared the stern Duke of Guise, nor could he give the place to a Guise without enraging Montmorenci.

One of the first acts of the new king was to issue an edict confirmatory of religious penalties. A blasphemer was to have his tongue pierced with a hot iron, but all heretics were to be burnt alive.

I hinted, some chapters ago, that the people of Saintonge did not very quietly endure the salt-tax. They broke out into a rebellion, about a year after the accession of Henry, in 1548. While Palissy was in the depth of poverty, labouring at his furnace, a scene of riot and violence was enacted for some months in Saintonge and the surrounding districts. It began in Angoumois, and extended to the Bordelais, Agenois, Perigord, la Marche, Poitou, Aunis, and Saintonge. The first insurgents were the country people, who took arms and expelled the officers of the gabelle. The people of Saintonge—this was in 1547—massacred eight of them. The people of Perigueux were content that theirs should be expelled. Henri d'Albret, governor of Guienne, sent troops against the insurgents, but his troops were driven back. Deserters and disbanded captains had been scattered by the constant state of war over the face of France; such men headed the bands of country people, and instructed them in martial ways. Pillage, fire, and massacre abounded, the revolt extended to Bourdeaux, which became the headquarters of the disaffected. The garrison of Château Trompette endeavoured to subdue Bourdeaux; that was repulsed, and the commander, Tristan de Morienne, king's lieutenant in Navarre, coming out imprudently to address the people, was seized by them, killed, mutilated, and buried. His body before burial had been first powdered over with salt, in order that by some act, however rude and clumsy of invention, the people might connect this

victim of their fury with a sign of their fierce hate for the gabelle.

The king was at that time with his troops in Italy, but he sent letters patent, promising that justice should be done, and these appeased the people. Justice was done, for the parliament immediately erected gibbets and wheels, on which they hung or broke the bodies of those ring-leaders who were not sent to the galleys. La Vergne, a citizen, who had been first to sound the tocsin, was torn asunder by four horses. While this was being done, two bodies of troops sent by the king were on their way to complete the act of justice. One body was under the Duke d'Aumâle, the other was under Constable Montmorenci. The duke traversed Saintonge, Poitou, Aunis, &c., restoring order with the aid of few acts of severity. The constable marched upon Bourdeaux to be revenged for the outrage on Tristan de Morienne.

The keys of the town of Bourdeaux Montmorenci disdained to accept, and with drums beating, cannons rolling, lances pointed, and flags flying, he marched his troops into the town as a triumphant enemy. The people were disarmed, a grim tribunal was appointed, and the great square was crowded with scaffolding and gibbets. A hundred citizens were promptly sent to die upon them. Two leaders of the people were broken on the wheel, one of them wearing at the same time on his head a red-hot crown. The town was declared guilty of felony, and deprived of all its bells. The parliament, because it had been tardy in

its effort to suppress the tumult, was suppressed. The magnates of the town were sent to dig up with their nails the body of Tristan de Morienne. They were then ordered to carry it before the windows of the constable, and go down on their knees with it, beseeching pardon for the deed that had been done. After this they carried in their hands the putrefying corpse to the cathedral, where they buried it beside the choir. Finally, they paid two hundred thousand livres for the expense incurred in giving them their punishment. It was ordered also that the town-hall, from which Tristan stepped out to be murdered, should be razed to the ground, and that in a chapel built over its site prayers should be offered every day for Tristan's soul. This, however, was not done ; and all the other penalties incurred by Bourdeaux were remitted during the succeeding year, only a few minor privileges remained lost for ever to its parliament.

From Bourdeaux, Montmorenci went through the other disturbed districts, Saintonge among the rest, and wherever he went he built and furnished gibbets. This having been done, the king allowed the people to buy off their salt-tax at the price of two hundred thousand gold dollars, in addition to the cost of paying all the officers. That arrangement suited the king very well, for he was at all times prompt to turn the crown revenues into capital, and so consume them, without any care for what might be the income left to his successors.

During the year 1551, Henry II. was taking a very

bold position of hostility towards the Pope, and fearing much lest this might give a false encouragement to heretics, he supplied them with the edict of Chateaubriant by way of counter-demonstration. This edict aggravated former penalties ; it forbade all presentation of petitions for the aid of heretics, all refuge to them ; it offered rewards to their denouncers, and confiscated their goods when they went into exile. Public men, on their appointment to an office, or otherwise when called upon, were obliged to exhibit a certificate of orthodoxy ; and active inquisition into private opinion, with a view to the discovery of heretics, was recommended.

It should be remembered that this edict was in force, and this was the temper of the state, when Bernard Palissy besieged in their houses, with a bold expostulation, six of the chief men of Saintes, by whom his avowed friend and fellow-heretic, Philebert Hamelin, was held for death.

But as these judges leniently shut their ears to the rash words of Palissy, and kindly answered him, so also in many parts of France men had not heart to act up fully to the fiercest spirit of the law. The heretics grew stronger : heresy tainted a large part of the Montmorenci faction, the religious struggle heightened court disputes, and in the camps the soldiers often were prepared to come to blows together ; because some were orthodox and some were not. Therefore, it was thought necessary that law should be more severe.

Rome had named an inquisitor for France; to him the bishops made objection; they said, it sufficed that there should be given to them absolute power to condemn heretics, and that the heretics should have no right of appeal. To this the council of the king agreed, and the arrangement was submitted to the consent of the parliament of Paris. The parliament denied consent, and through the advocate-general, Séguier, they made the king's blood tingle with a noble speech. "If heresy was to be suppressed," said Séguier, whose name is very honourable for the bold utterance more than once at this period of manly feelings—"if heresy was to be suppressed, let pastors be compelled to labour among their flocks. Commence, sire," said he, "with giving an edict to the nation which will not cover your kingdom with scaffolds, which will not be moistened with the blood or tears of faithful subjects. Distant, sire, from your presence, bent under the weight of labour in the fields, or absorbed in the exercise of arts and trades, they know not what is now being designed against them. It is for them, it is in their name, that the parliament addresses to you its most humble remonstrance and its ardent supplication." The bold orator then turned upon the counsellors with a stern apostrophe, reminding them of the uncertain future of all subjects who were high in power. Montmorenci could provide a comment from his past experience, the Duke of Guise looked his sternest; but Séguier spoke to good pur-

pose, for the opposition of the parliament caused the new project to be set aside.

To provide the better justice for his people, or more offices for the friends of the friends of his courtiers, Henry II. greatly increased the number of lawyers and other officers throughout France. He established under the name of Presidial Courts a fresh spider's web over the country, for the catching of his subject-flies, and for the fattening upon them of such spiders as might have a friend at court. His abuse of the crown revenues I have mentioned. He was reckless in expenditure. He gave the seigneurie of Gannat, in the Bourbonnais, to a fiddler named Lambert, as a marriage-gift upon his leading to the altar nobody knows whom. The parliament reminded him through their mouthpiece, the honest Séguier, that he had only usufruct of crown revenues, and that if he must needs be wasteful, he should waste his own money, and not that which appertained to his successors. Henry listened, smiled assent, and went on as before. The disorder and lewdness that prevailed in his court were revealed about this time in a suit for what we should call "Breach of Promise of Marriage," by one Demoiselle de Rohan against the Duke de Nemours. Most of the chief men about the king were witnesses, and their evidence supplies a filthy picture of the court of France during that time.

In the year 1557 Montmorenci was captured by the Spaniards in an endeavour to relieve his nephew, Coligny, shut up in St. Quintin. This is the latest date we have

at present reached in any section of our narrative. It is the date of the completion of Bernard's fifteen or sixteen years of apprenticeship in pottery. Montmorenci being absent in the power of the enemy, the Duke of Guise, after his great exploit, the capture of Calais, was at court, improving the occasion. In spite of the stern look of commander which the weak spirit of Henry feared, Guise, who was certainly a gallant soldier, was a handsome man of polished manners, who could be agreeably persuasive when he pleased. When Montmorenci heard through some of his attentive spies how cleverly his rival was at work, he obtained leave on parole to visit the French court, and betook himself, in 1558, to Paris—he was then a man sixty-five years old—to watch over his own interests. He was at first coldly received, but soon regained his old ascendancy.

In the mean time Calvinism—heresy—was spreading, and already numbered many great men in its ranks. Among these men were Admiral Coligny, and his brother, D'Andelot, Colonel-General of French Infantry. These were two nephews of the constable, and Cardinal Guise (Lorraine) resolved to strike at Montmorenci, and to wound the adverse faction, by a blow aimed against them. He denounced them as heretics, and they were summoned to reply. D'Andelot boldly came, acknowledging and justifying his opinions, while he attacked the abuses in the Church with a freedom that incensed the king. D'Andelot, therefore, was imprisoned, and his office of colonel-

general was given to a soldier whom we knew in his youth, and who has since been rising in the world—Blaise de Montluc. Persuaded by his friends, D'Andelot consented to go through the form of hearing a mass, and was set free, but he could not forgive himself for having in that way obtained his freedom.

The brothers Coligny and D'Andelot thus came to be regarded as their chiefs by the great body of heretics in France, who admired their austere habits, honoured the sacrifice by them of worldly power and profit which the adoption of Calvinism had involved. The orthodox were proud of a defender like the Duke of Guise—the defender of Metz, the captor of Calais, a military genius, a man brave, eloquent, and liberal in gifts.

Montmorenci having regained his influence at court, went back to Spain, obedient to his parole. He had regained his influence very completely. The Guise party, having formed a coalition with the party of Queen Catherine de Medicis, had left the king's mistress anxious to retaliate upon them by forming a close alliance with the constable. Montmorenci, with Diana of Poitiers, gained not only the extension of his faction, but the completest hold upon the king. Diana and Montmorenci were the woman and the man who influenced King Henry most, who were his nearest friends, and when they ceased from rivalry and worked together with a common purpose, they were themselves the King. So thorough was the influence thus exercised, that after the constable's return to Spain,

the king, enrolled among the number of his meanest spies, listened for court-tattle to report, watched all the tactics and manœuvres of the Guise faction, and sent details of them to the great head of the rival party. In this work of course Diana helped, and manuscripts remain to us containing information of this kind, written in one place by the king, in another place by his mistress,—one continuing the letter of the other, and the other then resuming,—with the signature of both affixed as, your old, best friends, Diana and Henry: “*Vos anciens et meilleurs amis, Diane et Henri.*”

A conference having been appointed in 1558, for the discussion of some terms of peace, Montmorenci was sent by Spain to the meeting. King Henry, seeing him approach, ran forward and hung upon his neck; kept the constable in his tent, and caused him to share his bed, till he returned again. Soon afterwards the constable was ransomed, and laboured so industriously to bring about a peace, that in the year 1559, the war in Italy, which had endured then for six-and-seventy years, was ended. For the peace the constable received no benediction from the Duke of Guise, whose glory was in war, or from the people; it was termed the Unfortunate Peace, because it was obtained by yielding up all that had been filched in seventy-six years of disastrous contest. The contention ceased by a surrender of the bone.

I know no words that can depict the wretched state of the French people at this time. Incessant war had taken

brave young men out of the fields, and left thousands of them dead on a foreign soil, or returned them to the country men of debauched life, bullies, cripples. The immense cost of these wars had been defrayed by oppressive taxes, recklessly imagined, cruelly enforced. The lust and luxury of a debased court had grown fat for years upon the money of the poor. Almost every year saw the creation of new salaried officials, whom the people had to carry on their backs, and pay besides for doing them the honour to be burdens. The morals of the people were perverted, they were impoverished, embittered, made litigious, and devoured by lawyers before judges of whom scarcely one in ten was unassailable by bribe. The Church was a machine for burning heretics and raising tithes. Against the debasing influence of a corrupt court, which extended among all ranks of the nobility, and through them was displayed before the ignorant among their fields,—against the vice bred in the camp and dispersed along the march of armies, or brought home by thousands of disbanded soldiers,—the Church, as a whole, made not one effort to establish Christian discipline. Pastors laboured only at the shearing of their flocks; bishops received in idle and luxurious abodes their own large portion of the wool. Instead of dwelling in their bishoprics, and struggling for the cause of Christ, no less than forty of these bishops were at this time in Paris, holding their mouths open like dogs for bits of meat, and struggling for the cause of Guise or Montmorenci.

The heretics grew bold, and made a demonstration in the *Pré aux Clercs*. The king grew more embittered against them, and on the 1st of June, 1559, he played off a sly trick at a meeting of a council called the *Mercuriale*, by inducing all the members to speak their minds about the demonstration, and then causing the arrest of those who spoke with any leaning towards its promoters. He then bethought himself concerning some new measures of severity ; but on the 28th of the same month a lance went through his skull while he was jousting at a tournament;—being strong-fisted, he was glad to show his skill;—and so King Henry died at the age of forty-one, leaving Catherine de Medicis a widow. She was a good-looking widow of forty, with three daughters and four sons. Her eldest son, a lad of fifteen or sixteen, on the 10th of July, 1559, became, while yet under his mother's tutelage, King Francis the Second.

There remain to us specimens of a beautiful kind of pottery which was made in France, under the patronage of Henry II. and Diana of Poitiers, while Palissy was maturing his discovery. This ware is called *Fayence of Henry II.*,* sometimes *Fayence of Diana of Poitiers*; it differs from Palissy ware altogether, but is quite as beautiful, and is the earliest fine fabric of the kind known to

* For my information on this subject, I am indebted to Mr. Marryat's excellent volume upon Pottery and Porcelain, to which I have in a previous chapter had some obligations to acknowledge.

have been made in France. Where it was made, or by whom, are questions that remain unanswered; probably by Italian artists, perhaps by descendants of Luca della Robbia, several of whose family exercised his arts in France. The fayence of Henry II. is of a hard paste—that used by Palissy is soft. This fayence is made of a true pipeclay, very fine and white, so that it does not require any enamel, and the ornaments upon its surface are covered only with a thin, transparent, yellowish varnish. The ornaments themselves are engraved patterns, of which all the grooves are filled with coloured paste, so that there results a smooth surface, of which the decoration is a fine inlaying. Of these inlaid ornaments, yellow-ochre is a prevailing colour. In addition, however, to the inlaid patterns, the fayence of Henry II. is adorned with ornaments in bold relief—masks, escutcheons, reptiles, shells, flowers, which abound in a pink colour. The pieces of this fayence are mostly small and light, and their exquisite workmanship equals the chiselling of famous goldsmiths.

On the early specimens of this kind of fayence, the Salamander and other insignia of Francis I. occur; but upon most of the pieces, and upon all the best, are the arms of Henry II., with his device of three crescents, and the initial H., interlaced with the two D.'s of Diana, Duchess of Valentinois. The emblems of Diana are as common on the ware as those of her royal chevalier. Her colours as a widow, black and white—which the king

wore at tournaments, and in which, therefore, he died—had been created into fashionable colours at the court, and are employed in some of the best pieces of this class of pottery. There occurs also her emblem—the crescent of Diana, which King Henry carved upon his palaces, and even had engraved upon his coins.

This beautiful fayence, which must have been first made at the end of the reign of King Francis I., and the making of which was continued under that of Henry II., then disappears. Its maker, or its makers, died or left the country. It is a pleasant mystery. It heralded the appearance of Palissy ware, different in its beauty, although not less beautiful. Its maker does not contend with Bernard for applause ; he quits the field almost in the same moment that Bernard enters. We hear of him no more, nor is there any ware known that can claim affinity to the Fayence of Henry II.

CHAPTER XVI.

PALISSY PUBLISHES A BOOK.

PALISSY published his first book during the first troubles, that is to say, most likely in the year 1557 or 1558, when he was forty-eight or forty-nine years old, and accounted himself to have reached the end of his great period of struggle as a potter. It is to this point that we have now brought the story of his life; and upon the question of the book, therefore—which is, perhaps, a lost book—it becomes necessary for us now to pause.

We may so far forestal our narrative as to say, that the only works bearing on their title-page the name of Bernard Palissy, and those on which his reputation as a man of sense and science must depend, were published, the first at Rochelle, in 1563, the second at Paris, in 1580. If the former of these publications were not called by Palissy himself, “this my second book,” and if in the latter he had not made distinct and special reference to both the date and the contents of his first work, no known trace

would exist in literature to indicate that Palissy had written more than the two books bearing date 1563 and 1580. This fact can be accounted for only by the supposition that the first attempt of Palissy to put his thoughts in print had either no name at all, or only an invented name, upon the title-page.

In the publication of 1580, at the commencement of a treatise on Potable Gold, Palissy thus speaks to his theoretical disciple: "And how is it that you are still cherishing these dreams? Have you not seen a little book which I caused to be printed during the first troubles, by which I have sufficiently proved that gold cannot act as a restorative, but rather as a poison, about which many doctors of medicine, having seen my arguments, were of my side: so that a short time since there was a certain physician, doctor and regent in the faculty of medicine, who, being at Paris in the chair, confirmed my statements,* proposing them to his disciples as a doctrine well assured? If there were only that, it would suffice for the confounding of your arguments."

Acting upon the hint given in this passage, MM. Faujas de St. Fond and Gobet, the editors of the quarto edition of the works of Palissy, in the year 1777, included in their volume a clever dissertation on the Ignorance of Doctors, in which they believed that they had dis-

* Probably this reference is to "*Germani Courtini, Medici Parisiensis adversus Paracelsi de tribus principiis auro potabili totâque pyrotechniâ portentosas opiniones, Disputatio.*" 4to. Paris, 1579.

covered Palissy's first work. In support of their opinion they produce a fair body of argument. I doubt, however, whether they have made out a complete case of affiliation.

Without committing myself to a decision on the question, I shall briefly enable the reader to decide or hesitate for himself, as he may think fit. We can then get from the treatise a few sketches which may or may not be drawn from the originals of Palissy, but which will, in any case, depict an aspect of society from which Bernard had taken views extremely similar.

At Fontenay le Comte, in Poitou, which is a district adjacent to Saintonge, dwelt a physician named Sebastien Colin. This physician had translated Alexander Trallian and other things, had written medically against Plagues and Fevers, and Apothecaries. His treatise on Apothecaries became popular. It is an old joke to regard the doctor as one of the most fatal of diseases. In the sixteenth century the joke had a good deal of earnest in it. When the doctor falls under a joke, the apothecary falls under a sneer, and an onslaught on apothecaries by a doctor would of course be ably seconded as fun by the surrounding world.

Sebastien Colin's manifesto is entitled* "A Declaration of the Blunders and Tricks of the Apothecaries, very use-

* Déclaration des abuz et tromperies que font les Apoticairez, fort utile et nécessaire à ung chascun studieux et curieux de sa santé, par M^e Lisset Benancio, imprimé à Tours, par Mathieu Chercecé, pour Guillaume Bourgea, Libraire, demourant audict lieu. 16mo.

ful and necessary to every one studious and careful of his health, by Me Lisset Benancio." Lisset Benancio is an exact anagram of the author's name, Sebastien Colin. The publication professes to have been printed at Tours by Mathew Chercelé, but the printer's name is also feigned, and the work probably was printed at Poitiers, like the other writings of the same physician. The tract was frequently reprinted, and has been translated into German and into Latin. It was reprinted at Lyon "by Michel Joue," in 1557.

This Michel Joue, with his punning motto of "*Cuncta juvant à Jove*," is, we are told, an imaginary person. The reply to Colin, said to be the work of Palissy, proceeded in the same year from the same imaginary publisher, whom MM. Faujas de St. Fond and Gobet, by a comparison of types, vignettes, tail-pieces, and so forth, identify with Barthelèmi Berton of Rochelle. It should be observed, that the second book of Palissy was printed at Rochelle, the printing-presses of which town were those that were most conveniently accessible to an inhabitant of Saintes.

Let us now assume, for a moment, that it was really Palissy who lent his shrewd intelligence to the apothecaries, and retorted in their behalf upon the ignorance of doctors. The act itself appears to be very consistent with his character and habits. He knew well the pretensions of the faculty, and the unsoundness of the little science they possessed; he had some contempt for the belief that knowledge lay in Greek and Latin. He had lost six

children, and been so brought into melancholy contact with physicians. As professed men of science, he had sought them in his travels, and must very commonly have found them little worth his search. Since he improved in his art as a potter, and gained more extended patronage, he had again been called upon often to pass far beyond the limits of the town of Saintes. In one of his known works he tells a contemptuous story of a doctor in Poitou, who founded his reputation on trickery connected with a subject which we know Colin to have made one of his strong points, and upon which he wrote a book. If it be Colin to whom Palissy in that passage alludes, it is very certain that Bernard must have looked upon the assaulter of deceit in apothecaries as a man who was himself an arch-deceiver. Colin's pamphlet had attracted a good deal of notice; in it the physician was to be seen thundering down out of his sublime height a storm upon the heads of the apothecaries. It would be quite consistent, therefore, with the mood of Palissy to make a work like this the text for a short exposition of what seemed to him some very gross delusions prevalent among the doctors of his day.

The reply to Colin, which has been supposed to constitute the maiden work of Bernard Palissy, has its title framed upon that of the attack to which it is intended to reply. It is called* "A Declaration of the Blunders

* *Déclaration des abus et ignorances des Médecins, œuvre très-utile et profitable à un chacun studieux et curieux de sa santé, com-*

and Ignorances of the Doctors, a work very useful and profitable to every one studious and careful of his health, composed by Pierre Braillier, trading apothecary of Lyon, in answer to Lisset Benancio, physician." It professes to be published at Lyon, by Michel Joue. It is dedicated to the Seigneur de Boissi, in an epistle dated from Lyon, on the 1st of January, 1557. That means, in our present language, January, 1558, since January was at that time reckoned one of the last months of the old year, and not the first month of the new.

It is necessary to state that this quarrel between doctor and apothecary produced another crop of fruit in the succeeding year. Jean Surrelh, a physician, published a tract,* also at Lyon, in May, 1558, which was opposed equally to the productions of Colin and Pierre Braillier.

Soon afterwards Pierre Brallier, either the former writer or some other who assumed that name, re-entered the lists with a violent attack against Surrelh,† whose antecedents laid him very open to annoying personalities. This Brallier called himself scholar of the college of M. Jean de Canapes, one of the most celebrated physicians of Lyon. It will be observed, that the second Braillier retains the sound of the old name, but makes a variation

posé par *Pierre Braillier*, Marchand Apoticaire de Lyon, pour reponce contre *Lisset Benancio*, Médecin. Lyon, par *Michel Joue*, 1556. 16mo.

* Apologie des Médecins contre les calomnies et grands abus de certains Apothicaires, par *Jean Surrelh*, Médecin. 8vo. Lyon, 1558.

† Les articulations de Pierre Brallier, Apothicaire de Lyon, sur l'Apologie de *Jean Surrelh*, Médecin à Saint Galmier. 8vo. Lyon, 1558.

in the spelling. Much stress cannot be laid upon this fact, but it assists to some extent in confirmation of a belief that the two publications were not written by one author. It is quite certain, that if they were, that author could not have been Bernard Palissy.

It is suggested by MM. Faujas de St. Fond and Gobet, that as the author of the attack upon apothecaries, printing at Poitiers, had affected for disguise to publish his book at Tours, so Palissy, having transformed himself, for convenience both of disguise and satire, into an apothecary, dated his book from Lyon. It is suggested that the initials of Pierre Braillier, "P. B." are, when inverted, "B. P.," and so stand for Bernard Palissy: perhaps it would be an almost equally valuable coincidence to observe that neither of the names contains an "x."

The main reason, however, for assigning to Palissy the authorship of the treatise in question, arises from the fact that it is the only publication, anonymous or pseudonymous, which has been found answering at all to the account given by Bernard himself of his first work. A work was wanted written during the first troubles, that is to say, in or very near the year 1558, manifesting an enlightened spirit, having its author's name unknown,—unless indeed it had upon its title-page the name of Palissy,—and containing arguments against belief in the efficacy as a medicine of metallic gold. After a diligent search, no other treatise against this use of gold, written in French, and answering to the required description, could be found to

have been published between the years 1540 and 1560. Nothing presented itself but this Dissertation upon Doctors. It is declared by the discoverers, that not only in opinion, but also in style, the treatise thus suggesting itself conforms closely to the known writings of Bernard Palissy.

Dismissing from consideration those resemblances which are produced by the common use of modes of writing proper to the age, one cannot but think the identity of style between the work assigned to Palissy, and works known to be his, extremely doubtful. In his second book, for example, published four or five years after the first, there is a quaint habit, evident on almost every page, of carrying a sentence on by the use of such phrases as "le dit," "audit," &c. Thus Palissy tells us, that, while labouring at the enamels, "I was so wasted in my person, that there was no form nor prominence of muscle on my arms or legs; also *the said legs* were throughout of one size, so that the garters with which I tied my stockings, were at once, when I walked, down upon my heels with the stockings too." This quaint habit is entirely absent from the Dissertation upon Doctors.

It is to be admitted, however, that there occur passages of some length here and there among the works of Palissy wherein the said "sais" do not occur, and the whole style has a good deal of conformity with that of the Apothecary's Dissertation. The said Dissertation does in clearness of thought, in boldness of opposition to prevailing errors,

and in constant production of experience against absurdities of theory, resemble very much the works of Palissy. To its opinions Palissy would have certainly subscribed, and many of them were enforced by him in later writings.

The treatise is not written in the form of dialogue, and in that respect it differs from all Bernard's other writing.

It ought also to be stubbornly remembered, that Bernard Palissy refers to his first work as "a book by which I have sufficiently proved that gold cannot act as a restorative, but rather as a poison, about which many doctors of medicine, having seen my arguments, were of my side." This being remembered, at the same time it is to be observed, that the Dissertation upon Doctors is by no means a treatise specially devoted to the errors touching gold. Errors of this kind are only displayed in it incidentally, among a list of other blunders. The subject of gold occupies, in fact, only two pages out of fifty. In these two pages it is only said: that the author had fed a cock with gold, because a doctor had declared cocks could digest it; that he had found the statement of the doctor false; also, that he had exposed gold to fire for eight-and-forty hours without producing diminution of its substance. Therefore the writer holds that gold could never be digested, and must act as an impediment only in the stomach. "If I were to say that gold was not restorative," he adds, "that would be false; because through gold one

may get capons, partridges, quails, pheasants, and all good things to rejoice and renovate a man ; as houses, castles, lands, possessions." No more is propounded on the subject in this treatise. Colin himself, in the Declaration against which it was a counter-manifesto, had written against the medicinal use of gold, and had said more than is here said in condemnation of it. If any merit was due, therefore, to the few paragraphs of Pierre Braillier, a little more than the same merit was due to the preceding paragraphs of Colin. The reference of Palissy to his first work is gravely made, as to a work containing an elaborate argument upon the use of gold in medicine, which had exerted influence upon the minds of some physicians, and had been confirmed by a professor in his chair at Paris. The Declaration against Doctors, containing no more than had been said just before in the Declaration against Apothecaries, cannot be said to verify this reference in a convincing manner.

Again, the Dissertation upon Doctors contains, as a work of Palissy would contain, scriptural allusions ; it was written, very likely, by a member of the Reformed Church. But it was written with good faith, in the true vein of an offended apothecary fighting for the honour of his order. It may be said that, if so, the cleverness of personation was only so much the more creditable to the wit of Palissy. But it is very questionable, indeed, whether his deeply religious spirit would have suffered him to carry

his humour beyond certain bounds; I doubt whether Palissy would have written as Pierre Braillier puts it, of "the state of pharmacy, *to which God has called me.*"

Pierre Braillier, in his epistle to the reader, begins with a scriptural allusion to forgiveness of injuries, which slides rapidly into recrimination upon doctors who are jealous of apothecaries. Of all states in the world, he says, that of the apothecary is the worst; he is the worst paid, made the most servile, and the least esteemed of men. He does not wonder that apothecaries combine other occupations with their calling; for their own is so much trampled down by surgeons and physicians, that patients expect to be attended by them for the honour's sake: "saying (when they are healed) what did you send me? herbs: and that is how the poor apothecaries come to be paid."

"As for the physician, he is paid upon the spot; or if he be not paid he will not return to a place, though he spends nothing but his trouble there; and the apothecary spends much more trouble than the doctor, for he must apply all blisters, clysters, and the like, supply the use of his drugs, his time, his servants, and sometimes get nothing at all, losing his time, his trouble, and his drugs.

. . . . It is well of Lisset to say that the apothecaries sell the virtues of drugs and plants which God has supplied to us gratis, without cultivating them, which they ought not to do, and tell us that it is a great sin against God. I would beg him to take the trouble, he and his friends, to go and look for herbs, flowers, roots and seeds, gums,

fruits, &c., and conserve and store them with great care and diligence, pay house-rents, wages, and keep of servants, buy the drugs that come from distant lands for large sums of ready money, and then supply them gratis. How would they sell their drugs for nothing, when they will not even furnish a simple visit without being paid, and sell their presence and their words. Yet their visit and prescription sometimes do more harm than good. . . . I leave you to judge, when they have conscience to take a dollar for feeling a pulse and ordering a simple julep, while the apothecary shall find trouble to get paid two sols, which is the greater thief, apothecary or physician?"

Pierre Braillier reasons here like an apothecary of the good old times. Let us, however, call to mind the doctor a hundred years after the publication of this treatise, as he appeared, and deserved to appear, in the works of Molière. Pierre Braillier had vulnerable matter to attack. In our own day, what is called address will assist much more than intellectual ability in the creation of a thriving practice. In the time of Palissy, Pierre Braillier writes of the physicians—"I think that they have studied mumming more than medicine; it is in that, at any rate, that they are wisest; and they might more fairly call themselves incorporated mummers than physicians, for it is the chief perfection that they have."

Pierre then dwells upon doctors who cannot cure themselves, and upon doctors who prescribe absurdly, so that

it is necessary for apothecaries quietly to rectify their blunders. He then turns specially to Lisset Benancio, and ends his preface with this paragraph: "Here are not blamed the learned and the wise, and not to be prolix, I will pray to God very heartily that He will give us grace so well to exercise our estates and vocations into which it has pleased Him to call us, that it may be to His praise and glory, so that we may have no just occasion to blame and abuse each other, to the great prejudice and debasement of our professions."

The Declaration of the Blundering and Ignorance of Doctors then begins in a religious, philosophic tone. Presently it defines the doctor's duty. "In the first place, the doctor should consider, before prescribing, the acrimony of the disease, its strength, the strength and age of the affected person, his temperature and habit, the quality and temperature of the existing season; then he should know and recollect the virtue and properties of the medicament with which he designs to heal: and all this having been well considered and recollected, he has still many difficulties to encounter, and sometimes cannot effect his purpose." This being defined to be the physician's duty, he proceeds with much shrewd sense, and a little acrimony, through a catalogue of the physician's blunders.

"Do you not think," he says, "that it is a great blunder on the part of doctors to keep an unhappy patient shut up in a room, the windows close, the bed close, and forbid any one to give him air? When

already the poor patient cannot get his breath by reason of his malady, except with a great deal of trouble, you cause him to be furthermore shut up and smothered. See how you blunder: first you rob him of his breath, and render him more melancholy than he would be made by his disease, through the foul odours which cannot escape, which pierce his brain and aggravate his illness: and if you grant to me that air aids the expulsive virtue, and that no animals having lungs can live without air, then man, however whole and cheerful he may be, cannot live without air, still less can he do so when he is sick: wherefore I say that you blunder in forbidding air to patients when it is good, and not too cold, or moist, or windy. . . . I should like to ask whether if you were shut up alone for six days in a chamber without air, you sound and not sick (as you shut up your patients), whether you would find it a good thing, and whether you could live as you now do?"

Although the writer was, of course, like all the men of his day, ignorant of the real use of air to animals, and accounted for its obvious necessity upon a theory belonging to the physiology of his own time, yet it is worthy of remark, that, in spite of our own better science, there are doctors enough in the present day who take great care to keep the sun and air out of a sick room, and make of it a place in which they could not themselves live without decided injury to health.

The writer then combats the cruel and fatal practice of

forbidding any drink to persons suffering with fevers. Then he passes on to other matters.

“How many times,” says Pierre Braillier—and if Pierre be really Palissy his thoughts are prompted by the recollection of dead children of his own—“how many times have I been in company with the physician seeing patients of an evening, when he has said to the parents—‘The child will do well, and certainly will soon recover;’ and in the morning we have found it dead upon the table. Several times that has happened with physicians who were in the best repute, at which I have been astonished greatly. And if an apothecary dresses a poor man’s wound without their ordering, he will be blamed for it; and if the patient die, people will say, ‘The apothecary has killed him by his ignorance;’ why do they never say the same of doctors when their patients die under their hands?”

The next attack is on a blunder of which the medical profession is only freeing itself in our own day, the belief that there is wisdom in a long prescription. The long prescription of three centuries ago, arranged after an orthodox sentiment in triacles, was, of course, eminently open to attack; but I suspect that at this day there is many an old physician, surgeon, or apothecary, who might adopt with advantage to his patients the good doctrine of Pierre Braillier. Whether “P. B.” be Bernard Palissy or not, I will not venture to determine; but it may be seen that his shrewd sense has a Palissian character.

“Our Master Lisset,” he says, “blames us, saying that we cause many drugs to be used by the sick, in order that we may get more money; it is very much the contrary, for the sensible apothecary will take heed how he gives to the sick anything about which he is not assured by experience, and of which he does not clearly know the properties. He will not be like many doctors who prescribe confusing recipes, that is to say, great triacles, a quantity of drugs, to make believe that they are very wise, where two or three things, having good relation to the malady, would be of more use than all the triacles. If anybody would examine the physician who prescribes them, he would find him pretty well puzzled to explain the use of half, and would find his prescription an inextricable knot: for it is impossible that so many drugs can produce one action favourable to the malady, without setting up another which is hurtful or obstructive, and which may have some occult virtue that is out of place. Therefore I hold that practitioner to be wise who combines into one prescription few medicaments.”

Discussing also other matters, such as distillations and essential oils, with equal good sense, Pierre comes to the use of gold in medicine, which he dismisses with the arguments we have already seen. From gold he passes to electuaries of pounded glass, to the use in medicine of sapphires, rubies, emeralds, and laughs at coral dust in ointment as it used then to be applied over the region of the stomach.

The patients of those days really have to be admired for not rising in general rebellion against the faculty. They were denied drink when they were thirsty, and when they were hungry were denied young capons, and directed to eat only the oldest cocks and hens. Young meat was forbidden; old and tough meat was the diet of the sick. As they, moreover, paid a heavy price for drinking gold and rubies, when they could afford such costly dirt—for in the mouth they were precisely dirt—sickness must have been, more than it is now, a thing to dread. Pierre Braillier defends the wholesomeness of a young capon fat and tender, and argues against the theory by which an old hen is pronounced to be a “warmer diet.” He then proceeds to demonstrate the folly of giving distilled meat to the patients. There was a plan of putting a fowl, partridge, or quail with marrow, and a quantity of water, into an alembic, and then distilling. The fowl of course boiled, but only the pure water evaporated and distilled over into the receiver, where it was caught as the distilled essence of quail or partridge, to be prescribed to the sick in measured quantities, as a nutritious food.

Pierre Braillier dwells with not less sense upon other matters, and manifests a correct knowledge of the *materia medica* of his own day, with sounder views upon it than were often to be met with in the sixteenth century. He says: “I hope, with time, to write of medicaments, as well as of distillation, more amply;” a promise which Palissy would scarcely have thrown in for the sake of strengthening the impression that the book was written

by a real apothecary. Upon the reverence for Greek and Latin, Pierre writes as Bernard might have written. "Lisset says that the apothecaries are no grammarians, and that therefore medicine is in great danger. I can find apothecaries who will talk physic in French, that many a physician shall not know how to answer in Latin. It is easier for every man to study in his mother-tongue, than to borrow of strangers languages to study in.

"Galen wrote in his own language, and has not borrowed a tongue of any other country for the writing of his books ; so also Hippocrates and Avicenna, each wrote and studied in his own language. The apothecaries of France can study in French, without borrowing either a Latin or a German tongue; for all that concerns pharmacy has been translated into French, so they can be wise without being grammarians—ay, to be sure, and wiser than the doctors: for their books are in Greek and Latin, very choice, and half the doctors understand Greek not at all, and Latin hardly; so they do not comprehend what they are studying, and the poor patients run great risk under their hands, for then at the best they physic us according to the manner of the Greeks and Arabs, and with Greek and Arabian drugs; but we are neither Greeks nor Arabs, have not the same complexions, are not born or bred in the same climate. It is altogether opposite to ours: for their country and climate is twice as hot, and their medicaments much stronger and sharper, a great deal more active."

Of this Declaration of the Blunders of the Doctors we

need say no more. We have obtained from it some curious illustrations of another aspect of society in France during the life of Palissy ; but we probably quit it with the impression that it was in simple truth the work of an apothecary, who proved himself well fitted to stand forward as the champion of his order.

If we reject the suggestion made by MM. Faujas de St. Fond and Gobet,—upon the credit of whose assurance this treatise upon doctors finds its way into encyclopædias as first in the enumeration of the works of Palissy—if we reject this suggestion, there exists no other at present to supply its place. We must content ourselves with knowing, that in about the year 1558, when Palissy was forty-nine years old, he published his first work. That in this work he reasoned against the use of gold in medicine, and employed arguments which attracted some attention from enlightened men. Finally, that the first work of Palissy is a lost work ; and that we have yet to hope for its discovery among the dusty pamphlets stored up in old libraries. Certainly, whenever it shall be discovered, its dry skin will be found to cover sound muscle and sinew, bone and marrow, a heart throbbing warmly with rich healthy blood, and brains astir with vigour and vivacity.

CHAPTER XVII.

PALISSY IN SUNSHINE, AND FRANCE UNDER A CLOUD.

WHATEVER ignorance was manifested in the treatment of sick bodies during that portion of the miserable old times in France with which we are concerned, the treatment of a sick state by its politicians was no less to be declared against. If doctors hungered after dollars, and dwelt upon the fee as the grand aim of a prescription, kings and princes were no less rapacious, and the profit at which laws and edicts aimed when they were put forth nominally for the nation's good, was the profit of a man or party. The people of France entered only then into the calculation of their rulers when they made a declaration against blunders, and shaped their arguments in some form of revolt.

In our own time and country, there are only a few men whose lives we are unable to narrate without especial reference to state affairs. In France, during the sixteenth

century, there did not live a clown, perhaps, the current of whose life was not distressed and troubled by the course of state affairs, who had not been, or was not yet destined to be, at some time of his life heavily bruised by a hard-fisted government. There is a blow at hand for Bernard Palissy, and we must now, therefore, pursue the narrative of court intrigue and national misfortune.

Palissy had prospered in his art, and had fulfilled his utmost expectations of success. His beautiful designs in pottery, completed with much labour, and sold at a price which only the rich could pay, presented a new luxury to the great people of his neighbourhood. Antoine Sire de Pons, the Count of Marennes and his wife Anne de Partenay, Baron de Jarnac, and the Governor of Rochelle, became acquainted with his skill and supplied him with commissions. The Seigneur de Burie and the Count de Rochefoucault, men of much influence, became his patrons. The Constable Montmorenci, who filled up seasons of forced leisure in the luxurious employment of his vast wealth, found out the Frenchman who had learned to stamp his genius indelibly on clay, and soon established himself as head patron of Palissy the Potter. Bernard was bidden to employ himself on behalf of the great constable in the adornment of his Château d'Ecouen, about four leagues from Paris. Among all the business that flowed in to keep his furnace active and his wits at work, the decorations of the Château d'Ecouen took the first place.

The Château d'Ecouen, which had been built by the

constable, was carefully adorned by him with costly works of art. Much time was occupied by Palissy in the painting and enamelling of decorated tiles which were to pave the galleries and portions of the chapel. The designs were all of subjects taken from the Scriptures, very highly finished, and so well contrived that they gave to the whole pavement a rich effect of beauty that cannot be equalled by the best of Turkey carpets. In one part of the sacristy the Passion of our Lord was represented upon pottery by sixteen pictures, in a single frame, copies from Albert Durer, by the hand of Palissy. The other Scripture pieces were designed by Palissy himself.

Let us now call to mind the picture we have had of the Reformed Church of Saintes in the days of its prosperity, when "you would have seen the daughters and virgins seated by troops in the gardens, and other places, who delighted themselves in the singing of all holy things." Let us think of the good minister, M. de la Boissière, so prosperous that he is no longer obliged for want of table-cloth to lay his dinner on a shirt. Let us think of Bernard Palissy, so well supplied with patronage, that he might be rich if his restless energy were not expending ever time and toil and money on new efforts to improve his talent. If not rich, Bernard was now, at any rate, exempted from the cares of poverty. So let us think of him at ease, rejoicing in the religious aspect of his town, frequently travelling abroad to Ecouen and elsewhere, as his business required, and coming home to wander thoughtfully and

tranquilly among the rocks and fields. While he delighted in the water, earth, and air, he was revolving in his fertile brain quaint schemes which had but small connexion with his daily business, revolving also delicate designs, dreaming ideal heads of Christ, and penitents and pharisees. At the same time there were old fables to be thought about—Psyche, Proserpine, the Banquet of the Gods—which were to be painted upon glass for Montmorenci; and there was the rustic grotto for the gardens of Ecouen—an ingenious contrivance of his own, of which, “if men inquire into it, they will find that such a work had not before been seen.” Let our thoughts dwell for a short time on Palissy thus cheerfully at work. Having eyes, he saw that clouds were gathering about his country; having ears, he heard the rising of the storm that was hereafter to beat down pitilessly on his head. But let us picture him now with a sunbeam on his face and on his furnace, while the shadow of the storm is out of doors.

The shadow is a dark one. The eldest of the young sons of King Henry the Second and Queen Catherine of Medicis, under the name of Francis the Second, succeeded his father on the 10th of July, 1559. He was then less than sixteen years old, and already a married man. His wife was Mary, Queen of Scots.

During the eleven days of suffering which intervened between the wound received by Henry at the tournament and its result in death, the court factions were all busily at work sorting their cards for the next game. The

battle for ascendancy would be between the Guises and the Constable Montmorenci. Montmorenci had lost no time, while the king lay sick to death, in sending couriers out at all hours and in all directions. He gave notice to the princes of the blood, and especially to Antony of Bourbon, King of Navarre, that their affairs were at a crisis, and that they must at once claim their supremacy in the councils of the new king, or the boy would be stolen from them by the Guises.

The Guises, however, happened to be uncles to the boy's wife, and made themselves a way into his confidence through her. They also took care to propitiate his mother; for Queen Catherine was now a person to be courted in the state. The Guises won the favour of the queen-mother by sacrificing her antagonists, and chief of all, her rival Diana of Poitiers. The great men had caressed Diana while she had the means of paying them for their caresses, but when her crescent waned, none scrupled to abandon her. All persons distasteful to Queen Catherine were banished from the court, and forced to leave some portions of their property behind them.

It was to no purpose that Montmorenci sent his couriers out to noblemen and princes of the blood, while his astute rivals had quietly secured their game by the assistance of a pair of women. When the parliament came to salute the new king, after his father's death, he bade them understand that he had requested his good uncles, the Cardinal of Lorraine and the Duke of Guise, to govern his states,

and advised the parliament in future to refer to them upon all matters of public business. Montmorenci made an effort to convince the queen-mother of the impropriety of this arrangement, but he wasted his breath upon an angry woman, who reminded him that he had been too friendly with Diana to be any friend of hers. Therefore, Montmorenci took the advice of Master Francis, the young king, and retired to his own domain of Chantilli.

The noblemen and princes of the blood who had been baulked in this way, came together at the court of Antony of Bourbon, the good-humoured and not at all energetic King of Navarre. They held a meeting at Vendôme, the constable not being there present to the eye, though he had sent his wits thither, and prompted the whole of the proceedings through Dardois, his secretary. It was resolved at this meeting that the Guises had no right to supersede the claims of princes of the blood and ancient officers of state. Resolved also that the King of Navarre should go to court, win over the queen-mother, open the king's eyes, and obtain public office for himself and for his friends. So King Antony went to court, where he was befooled by the Guise party, and whence he was presently sent on a wild-goose chase to Madrid.

The Guises, being now as kings, assumed the pride belonging to their power. The cardinal especially maintained the reputation of his calling; and, as Brantôme tells us, "was in his prosperity very insolent and blinded." The duke, being himself a worldly man, felt that he owed

to the world courtesy and moderation. Cardinal Charles was quick and clever, with some literary taste. He carried the grave face of a rigid ecclesiastic, while he quietly indulged the passions of a libertine. Duke Francis was a handsome man, with a majestic presence, and an easy, affable address. His pride never degenerated into scornfulness; he was a brave and skilful general, honest and frank in his dealings, a firm friend, but a remorseless enemy. That last characteristic was shared with him by the cardinal, his brother. But when the duke had satisfied his enmity by seeing an opponent humbled at his feet, it gratified his pride to raise him up again; the cardinal, when he had a victim prostrate, was impatient for a scalp. War is cruel, Christianity is meek; so we will endeavour to suppose this the only instance known to the world in which the soldier was less cruel than the priest.

Duke and cardinal took equal pains to strengthen the foundations of their power, by the multiplying of subservient partisans. To surround themselves with a high bulwark of human rottenness, they laboured to corrupt men on all sides, and devote them to their uses by gifts, pensions, benefices, orders of St. Michael. The collar of St. Michael was so much debased in social value by too lavish distribution, that it came at last to be called among the people, with a happy sarcasm, "Every Beast's Collar."

The people did not look with love upon the heads of the Guise faction. It did not please the people that the duke

should heap on his own head the honour of an office snatched from Montmorenci, that of grand-master of the house to the king. Still less did it please them that the same brave duke, after inducing Admiral Coligny to resign the government of Picardy, under the belief that he was doing so in favour of the Prince of Condé, should have bestowed that dignity on one of the hungry dogs that fawned on him for morsels—one of his creatures, Brissac.

But if men shook their heads in talking of the duke, they ground their teeth over the doings of the cardinal. The cardinal took care of the finance, and had found many retrenchments necessary. King Henry had left money matters in a state of terrible confusion. Then there came to the new court, when it was at Fontainebleau, a number of men petitioning for payment of contracted debts, or for arrears of neglected salary, or asking indemnity for loss sustained by the new minister's reforms in the exchequer. The court at Fontainebleau was, in fact, beset by duns. The cardinal then built a gibbet near the palace, and proclaimed by sound of trumpet that all men who had come to Fontainebleau to ask for anything were to depart within four-and-twenty hours, on penalty of being hung. That measure of course got rid of the petitioners, but they did not go back to their homes blessing the cardinal, or spread content by the roadside on their homeward journeys.

It has been said, that in the last month of the reign of Henry II., certain councillors were tricked into a free

expression of unorthodox sympathy, and then arrested. Against these men, five in number, the Guises set on foot the prosecution which had been delayed a little by King Henry's death. One of them, Anne du Bourg, a deacon, was eventually hung and burnt. From that time there was a cry given to political malcontents, to the oppressed people, the party of the princes of the blood, and Montmorenci. To secure the alliance of the large body of Calvinists, Montmorenci and his friends, who had, moreover, other claims to Calvinistic sympathy, had only to dwell upon the prosecuting spirit of the Guises. The retainers of the house of Guise, on the other hand, sought friends by pointing to the rigid orthodoxy of the cardinal, and so endeavoured to swell the ranks of a court-faction by identifying it with the welfare of the dominant form of religion. The Guises carefully stirred up religious zeal, and encouraged orthodox processions in the streets, intended to annoy the Calvinists, which commonly resulted in the mobbing of some Huguenot, who had refused to take part in the sacred demonstration.

Whoever might head the great party of malcontents, created by what was called the usurpation of power by the House of Guise, the men to whom the Huguenots looked up as their own chiefs were the three brothers Coligny, D'Andelot, and Châtillon. Of Coligny and D'Andelot we have already spoken. Admiral Coligny was a man stubborn, taciturn, and inflexible of purpose ; D'Andelot was not less steadfast and intrepid, and only a

few degrees less sombre and reserved. Both, says Brantôme, being so formed by nature that they moved with difficulty, and on their faces never any sudden change of countenance betrayed their thoughts. Very useful to them, therefore, was the alliance of their brother, who possessed, by nature, a more pliable surface to his character, and had increased its elasticity by education. This brother, Cardinal de Châtillon, Bishop of Beauvais, had a mild, engaging way, and so much tact in addressing those with whom he had to deal, that he knew how to avoid all those disagreeable collisions of opinion which would have checked the course of his more hard-minded associates. When negotiation was required, therefore, Châtillon, with his insinuating, courtly habits, proved a most efficient helper to his party.

At La Ferté, on the frontier of Picardy, the malcontents assembled at a château belonging to the Prince of Condé, who was a Bourbon, brother to Antony, King of Navarre. The Prince de Condé was a man given to ease and pleasure, who did not keep one mistress the less for having adopted the Reformed opinions in religion. At this meeting, Coligny showed that there were in France two million of reformers capable of bearing arms. It was resolved to strike a great and final blow at the dominant Guise faction. Troops were to be levied secretly throughout France, captains were to be appointed over them, and they were to be brought quietly from all parts to concentrate at Blois, for there the king would rusticate

in the succeeding spring, and endeavour to recruit his feeble health. The exact service to be done by them, and their precise destination, were to be kept secret from the troops; but Calvinists were to be levied on the understanding that they were to strike a sure blow for the freedom of their religion, political malcontents were to be told that they were to secure the triumph of their party. The real intention was to break out suddenly at Blois with overwhelming force, to drag the Guises—the king's uncles and his chosen, though obnoxious, ministers—out of the royal presence, to imprison them, and institute against them public prosecution. The princes of the blood and the ancient officials, with Montmorenci of course at their head, were thus to be placed where they believed they had a right to be, at the head of the state affairs, and the party of the Guises would be most effectually crippled.

This plot, which is called the conspiracy of Amboise, was kept duly secret by its first promoters. None of them would venture to commit himself by assuming the post of leader in an enterprise which, even when seen through the mists of faction in those days of enterprise, could not have appeared very noble to an honest man. An ostensible leader was required, also, who should be notoriously bold and able, while at the same time he was not provided with a set of principles too inconveniently definite. Captains and soldiers were to be tempted out of many regions of opinion, and a leader was required who should be distasteful to none. The required chief was found in a reck-

less, roving soldier, named La Renaudie, a man sprung from a good house in Perigord. La Renaudie received a detailed plan of the whole enterprise, in which provision had been made beforehand for a long series of contingencies. He was instructed to say that when the time should be ripe, the Prince of Condé would assume the lead of the movement, to which the people were invited. The name of the queen-mother was by some unfairly used as a consenting party to the enterprise, and she, it was said, would certainly have never sanctioned treason. Finally, to prop all sinking consciences, theologians and juriconsults, chosen judiciously, were requested to supply, and did supply, attestations that no law, whether divine or human, would be violated by the proposed move in the game of politics.

La Renaudie wrote to his associates, requesting them to meet him on the 1st of January, in the year 1560, at Nantes. The parliament of Bretagne there held its sittings, and as feasts were also to be held on the occasion of certain weddings among great families of the province, a large collection of conspirators might pass unnoticed in the throng of holiday-folk gathered there together from surrounding districts. At Nantes, on the appointed day, the whole plan was finally arranged, and the 15th of March appointed for the capture of the ministers at Blois. All went well. The Duke and Cardinal of Guise went with the pallid young king to Blois in due time. A throng of people, wholly unobserved by the Guises, was

marching from all corners of France steadily on, prepared to meet each other on the 15th of March. A dim hint of some danger reached the court, and though but slight importance was attached to it, the king was removed by his uncles from Blois to Amboise, a small town more easily defensible, in case defence at any time should be required. This change did not much disconcert La Renaudie.

I need not dwell upon the failure of the scheme. La Renaudie betrayed the secret to a friend, Avenelles, with whom he lodged. Avenelles gave information to the Guises, who heard with consternation of a danger close at hand upon so large a scale. There was time, however, for self-preservation. They succeeded in frustrating the whole design. La Renaudie being killed, was hung upon a gibbet, with a superscription "Chief of the Rebels." Amnesty, against the will of the Guises, was offered by the Chancellor Olivier to all those misguided men who would return home peaceably, and upon this promise large numbers immediately retired. A party of those who remained having attacked Amboise by night and been repulsed, the Guises became violent in their revenge, and sending in pursuit even of those who had departed on the faith of peaceful promises, committed all to indiscriminate imprisonment and massacre. The Prince of Condé was arrested, but was afterwards set free upon his own denial of complicity. Castelnau, a faithful servant of the state, died on the scaffold. He had quitted the castle he de-

fended to plead before the king his quarrel against the Guises, and to clear himself of treason to his sovereign, at the instance of the Duke de Nemours, and after receiving from the duke a written pledge that he should be suffered to go and return in safety. The Guises, however, arrested their opponent instantly, and the duke in vain implored them to enable him to keep his word. This, says the Marshal Vieilleville in his memoirs, "vexed the duke much, who was concerned only about his signature; for if it had been his mere word, he would have been able to give the lie at any time to any one who might reproach him with it, and that without any exception, for the prince was brave and generous." Such used to be good ethics for a knight in armour.

The immoderate, indiscriminate vengeance taken by the Guises after the failure of this plot heaped up terribly the measure of the public discontent. "I saw Huguenots," Brantôme tells us, "who said, 'Yesterday we had no part in the conspiracy, and would not have approved of it for all the gold in the world; but to-day we will own it for a dollar, and say that the enterprise was good and pious.'"

The Constable Montmorenci was maliciously selected by the Guises as the narrator to the parliament of Paris of the failure of a scheme in which many of his own adherents had been implicated. He was then sixty-seven years of age, an old man not yet feeble; and to the disappointment of his political opponents, he fulfilled his mission in a most becoming way. He simply narrated the facts,

abstained from all comment on the conduct of the Guises, confining his expression of opinion to a statement that the conspirators were clearly in the wrong; for, he said, if a private man is bound to protect friends under his roof, much more is a king bound, under the same circumstances, to protect relations who are at the same time his appointed ministers.

It has been said that the name of the queen-mother was used by certain members of the unsuccessful party. They may not have spoken wholly without grounds in claiming her as an ally. Catherine of Medicis had, at that period of her career, no settled plan of action; and as she flattered equally men opposite in party, each might sometimes carry home a tale of favour. She could listen to a tale of grievance, and interject such sympathetic words and syllables as were agreeable to the narrator; but she had not, at that time, attached herself as a true partisan to any faction. She was forty-one years old, and still a handsome woman. In the midst of the gloom which overspread society, through all the plots and tumults of which we have just been speaking, the queen-mother held a gay and brilliant court of ladies, who employed themselves in frivolous amusements. She favoured and protected artists, as a matter of elegance and taste, rather than settled purpose. At a time when the foulest stratagems were fair in love, she did not vex her ladies by too strict a care about their morals. They all fished and hunted, sang, danced, and embroidered, while the storm of civil war was gathering.

The darkness deepened over France. The Prince of Condé retired to the court of his brother of Navarre. An assembly held at Fontainebleau produced, and was intended to produce, no healthy result. The king, a most pitiable youth of seventeen, desperately sick, entered Orleans in October, to assist at the meeting of the states that was to take place there. Throughout his brief reign he had lived in the wild centre of a contention that he could not understand. Sometimes he drooped, and felt that, young as he was, and little good or harm as he had done yet in his feeble days, all those conspiracies and murmurs of the people, which had their centre in his chamber, could not be directed against him. But he was in the power of his uncles, and with them he entered Orleans, pale and unhappy, surrounded by armed troops, and looking through them at stern, discontented faces on the pavement.

The princes of Bourbon had been bidden to attend at Orleans on this occasion. Charles, Cardinal de Bourbon,* had been sent out to reassure them with a message from the queen, declaring that they had no treachery to fear. On the 30th of October, therefore, they entered Orleans. But there was a pitfall laid for them. At the moment of his appearing in the young king's presence, the Prince of Condé was arrested. His papers afterwards were seized, and his accomplices imprisoned. He was destined to be

* Among other things, Bishop of Saintes.

tried by a commission, and not, according to the prerogative of his rank, by peers and parliament under the presidency of the king. He asked for counsel to defend him, and his wish was granted, but only in order that the private instructions which he drew out, and the information which he gave for use in his defence, might be seized and directed against him as instruments in favour of the prosecution. The King of Navarre pleaded in vain for his brother before the proud Cardinal Lorraine, the king standing and bare-headed, abjectly pleading before the cardinal, while the priest, seated and covered, scornfully rejected his petition. His young wife wept in vain before the throne; the Prince of Condé was found guilty, and condemned to die on the 10th of December, the day on which the states were to be opened.

Several commissioners had already affixed their names to this decision, when rumours of the rapid waning of the king's life suspended their proceedings. The rumours were well founded. On the 5th of December, 1560, the poor boy—the French monarch—died. A child succeeded him.

CHAPTER XVIII.

THE OUTBREAK OF THE STORM—PALISSY WRECKED.

BERNARD PALISSY, on whom the sun was shining still, continued busy in his workshop. The Reformed religion had gained strength in Saintes, and Palissy was prominent in his own town among its firm and peaceable supporters. He assumed to himself the right of free inquiry, and did not scruple to make bold confession of his faith ; while doing this he quietly pursued his studies in the fields, and laboured in his prosperous vocation as a potter.

The chief work upon which Bernard Palissy was at this time engaged had been committed to him, as we have seen already, by the Constable Montmorenci. Perhaps Montmorenci had become acquainted with the skill of Palissy when his mission to quell the revolt against the salt-tax had brought him, after punishing the town of Bourdeaux, through Saintonge. Perhaps the constable, whose ears were open to all useful hints for the promotion of his famous building-works at Ecouen, had heard of

Bernard Palissy through courtly friends residing in or near Saintonge, whose homes the Potter had already decorated with examples of his skill. The patronage of Montmorenci must have gone far to assist the artist's worldly fortunes. A man who had been entrusted with important charges in the decoration of one of the most famous architectural works of France during his own time, was recommended by his position to a large circle of seigneurs who had castles to build or to improve.

The building of the Château d'Ecouen was commenced as one of the chief amusements of the wealthy constable, when he was forced into political inaction by the loss of royal favour. The architect employed upon it was Jean Bullant, who afterwards enjoyed the patronage of Catherine of Medicis, and commenced the building of the Tuileries in conjunction with Philibert de Lorme. In the history of French architecture, the reputation of Jean Bullant is founded principally on the Château d'Ecouen, with which we are now concerned. Bullant, a strict disciple of Vitruvius, had studied in Italy the remains of ancient art, and was among those who introduced into France Greek principles of architecture, which were often at first curiously grafted on the heavy Gothic character that belonged to the buildings of the period then closed. So it happens that the château at Ecouen displays a quaint mixture of old Gothic associations with the doctrine of Vitruvius, and exhibits classic outlines, Doric, Ionic, and Corinthian, with high roofs and church windows.

The château, distant about four leagues from Paris, overlooks from a hill the little country-town of Ecouen. It was built in the quadrangular form, and surrounded on three sides by a moat, in accordance with that fortress style of architecture which had not yet become unsuited to the wants of the French nobility. In its main plan there was much to remind one of the Luxembourg. On the fourth side, overlooking Ecouen, there was, and is, a terrace famous for the pleasant prospect it commands. The four corners of the building are slightly elevated in the form of towers, having cupola roofs. The château surrounds three sides of the quadrangle within, these being the three sides guarded by the moat. On the fourth side, corresponding to the terrace, the square is completed by a wall, having a plain massive gate, through which a visitor must pass into the quadrangle before coming to the grand front of the château itself. The entrance to this is quoted among architects for its majestic peristyle, with four Corinthian columns and as many pilasters, as the best specimen remaining of the works of Jean Bullant. The whole style of architecture in the Château of Ecouen is said to be characterised by that simplicity belonging to a work of genius, which produces in the student's mind, according to its humour at the time, a sense either of elegance or grandeur.

The altar of the chapel at Ecouen, by Bullant himself, is preserved now in a museum. There are carved on it in

bas-relief the four Evangelists and the theologic Virtues ; there are also spaces on it, formerly filled by statues of the constable and of his wife, Magdalen of Savoy, both chiselled by Prieur. Of the work contributed by Palissy towards the decoration of the building, nothing remains in the present day but the beautiful pavement in the chapel and galleries. Of the history of Psyche, painted on glass by Palissy, after the designs of Raffaelle, and of his large piece from the designs of Albert Durer, there remain only representations upon paper.*

A brief record of a visit paid to the Château d'Ecouen, not very long after the death of Bernard, supplies to us a few particulars which will assist in defining to our minds the scheme of decoration in which Palissy performed his part. "We saw," says the writer,† "a dozen heads and many beautiful figures in marble antiques ; there is one of a hero, in white marble, which is excellent ; and above all, there are two drooping captives, from the hand of Michael Angelo, which are not finished, but the design of them is marvellous. In the chapel we saw beautiful pictures, and among others a copy of the Last Supper, by Raffaelle d'Urbino, drawn on the piece of Papal tapestry which M. the Constable gave to the late Pope Cle-

* They occupy forty-five plates in vol. vi. of the Musée des Monuments Français.

† Nicholas-Claude Fabry de Peiresc, whose visit was paid in the year 1606, and whose account of it is quoted from MS. in a note to the edition of Palissy by MM. Faujas de St. Fond and Gobet.

ment VIII. The court is almost precisely square, forty paces in breadth, and forty-five paces long. The galleries and the château contain many precious marbles, and of those beautiful articles of pottery invented by Master Bernard of the Tuileries.* There are two galleries entirely painted with great skill by one Maestro Nicolo, who had been in the service of the Cardinal de Châtillon. On the glass, the fables that are represented best are that of Proserpine, on one, and that of the Banquet of the Gods; that of Psyche on the other; the pavement of these galleries is also the invention of the above-named Master Bernard."

In the peristyle before the chapel was a round table of great size, of black and white stone, polished, full of shells. The château contained works of taste executed in black Egyptian marble, verd antique, and other curious material. The walls of the chapel were adorned with figures of the Apostles in mosaic, and among other pictures, besides that of the Last Supper from Raphael, was the Woman taken in Adultery, by Jean Bellin. The font was a vase of Italian jasper, on antique bronze feet. The sacristy included among its contents a map of the Crusades, and was paved, as we have seen already, with the exquisite pottery of Palissy, covered with paintings of his own design, on subjects taken from the Scriptures. Of all the windows at Ecouen Bernard Palissy is said to have been the painter. In a grove of the garden there

* We shall find this name first attached to Palissy when we have reached a later chapter in the story of his life.

was formerly a fountain called FONTAINE MADAME, to which was attached the rustic grotto, of which Palissy speaks always with pride as one of the chief triumphs of his ingenuity. The formation of the fountain, and the arrangements made for its supply, were also, most probably, suggested by the Potter, whose study of nature, as we shall hereafter see, had already by this time led him to discover the true theory of springs, and whose shrewd wit instructed him in many ways by which he could make useful application of his knowledge.

Happily occupied with such work, and declining all part in the turmoil of the day, Palissy prospered still, while France was falling into trouble. Far removed from the old days of solitary struggling, he had now two sons, Mathurin and Nicolas, cheerfully taking their part of the labour in the well-appointed workshop. The trouble of France was being felt at Saintes. The hymns of the triumphant Huguenots, who had reformed the town, had begun already to fall into discord. Many who had put upon themselves reform as a garment cut to the prevailing fashion, had found the dress not loose enough to suit them, and returned to their old clothes again. Since orthodoxy had endured a summary ejection from the town, it had found time to make a formidable muster of its forces, and a contest was imminent. Still Palissy worked tranquilly at his vocation, exercising, however, openly a right to act on his own convictions, and to speak what he thought to be the truth. He

zealously supported the ministry of M. de la Boissière, and he did not spare his censure upon men of the old school, who enjoyed themselves on the revenue of the Church, and took no part in the performance of its duties. "They are accursed, damned, and lost," he used to say. "And I can tell you this with certainty, because it is written in the Prophet Ezekiel, chap. 34; for the prophet says, 'Woe be to you, shepherds, who eat the fat and clothe you with the wool, and leave my flock scattered upon the mountains; I will require it at your hands.' "*

The free speaking of Palissy created no goodwill towards the honest Potter through a large circle of men against whom his shafts were pointed. Any frivolous young noble of the neighbourhood would not much relish the good Potter's humour for applying common sense to the details of dress. "Brother," Bernard asks of an ideal courtier, "who has moved you to cut in this way the good cloth you are wearing in your breeches and other habiliments? Do you not know very well that it is a folly? But this insensate wished to make me believe that breeches so cut would last longer than others, a thing I could not believe. Then I said to him, 'My friend, assure yourself of this, and do not doubt it, that the first man who had holes cut in his breeches, was a fool by

* When I quote Palissy in this chapter, it is either from the *History of the Troubles in Saintonge*, or from a part of the *Jardin Delectable*, translated complete in the Appendix, under the title of *The Naturalist looking out on Evil Days*.

nature; and though, in general matters, you may be the wisest person in the world, yet in this particular you imitate and follow the example of a fool.' True it is, that a folly transmitted from our ancestors is esteemed wisdom; but for my part, I cannot agree that such a thing is not a direct piece of folly."

So from the highest to the lowest matters, Bernard freely exercised his judgment on the wisdom of his ancestors. He tested by a rule of common sense the absurdities of feminine attire. "You have got to yourself," he tells us in his lively way, after the form of an address to a high dame—"you have got to yourself a farthingale in order to dilate your dress in such a manner, that your garments barely escape exposing what you ought to hide. After I had made her this remonstrance, instead of thanking me, the silly woman called me Huguenot; seeing which, I left her."

Of the trader he desires to know what he has put into his pepper, that enables him to buy it in Rochelle at thirty-five sols the pound, and to make a great profit by selling it again in the fair of Niord at seventeen sols, "in consequence of the adulteration added to the said pepper. Then I asked why he was so foolish, and without judgment, as to deceive thus wickedly the customers; but without any shame, this rascal maintained that the folly of which he was guilty was a piece of wisdom; and I urged upon him then that he was damning himself, and that he could afford better to be poor than damned; but this

insensate said that poor men were of no esteem, and that he would not be poor, follow what might ; then I was constrained to leave him in his folly."

These, and other examples of 'his style of criticism on the follies and the vices of his time, occur in a book published by Palissy immediately after the events narrated in the present chapter. His criticism takes the form of an inspection of different heads, for the purpose of discovering what they contain. "In this way," he says, "I took the head of a presiding judge who called himself good servant to the king ; the same had greatly persecuted certain Christians, and had favoured many wicked men ; and having subjected his head to examination, and separated its parts, I found that there was one part fattened by a morsel of benefice which he possessed ; then I knew directly that this was the reason why he had made war against the Gospel, or against those who desired to lay it open to the light. Seeing which, I left him to his folly, knowing well that I should have no power of argument over him, since his kitchen was fattened with that kind of pottage.

"Then I came to examine the head and the whole body of a counsellor of parliament—the slyest fellow one might ever meet with ; and having put his parts into the retort and furnace of examination, I found that he had in his belly many bits of benefices, which had fattened him so much that he could not confine his belly in his breeches. When I perceived such a thing, I entered into dispute

with him;" but Palissy adds, when he has made remonstrance against his folly, "I had no sooner finished my discourse, than this foolish and insensate man used all his efforts to put me to shame, and gain a victory upon the proposition that I had maintained; and said to me with a loud voice: 'What, is that your argument? If I were, indeed, a fool for holding benefices, the number of fools would be terribly great.' Then I said to him, quite gently, that all those who drink the milk and wear the wool of the sheep, without providing for their pasture, are accursed; and alleged to him the passage that is written in Jeremiah the Prophet, chapter 34. Then he attempted a bravado, and a marvellously high-flown fury, saying, 'What? According to your account there are a great many whom God has cursed. For I know that in our sovereign court' (of parliament), 'and in all the courts of France, there are few counsellors and presidents who do not possess some morsel of benefice, which helps to support the gildings and accoutrements, banquets and common pleasures of the house, necessary to acquire in time some noble place, or office of more honour and authority. Do you call that folly? It is the most consummate wisdom,' said he. 'It is a great folly to let oneself be hung, or burnt, for the maintenance of the authorities of the Bible. *Item*,' said he, 'I know that there are many great lords in France, who take the revenue of benefices; nevertheless, they are not fools, but very wise; for such things help them greatly in the maintenance of their estates, honours, and fat kitchens;

and by such means they get good horses for their service during war.'” The war-horse, it will be observed, makes a shrewd climax to the list of worldly goods.

Plain-speaking, of the character here indicated, must be added to the list of Bernard's occupations during the period of his prosperity at Saintes. The same originality and force of intellect which procured patrons for the Potter, was serving at the same time to multiply enemies about the austere Reformer who indulged so freely in the luxury of truth. The affairs of the Potter prospered, and after all, the wife of Palissy perhaps would have been well content if pottery had been her only care.

The child who succeeded Francis II. upon the throne of France was six years younger than his predecessor; he was a little more than ten years old, and Charles IX. was his title. On his accession, the Prince of Condé had one foot upon the scaffold, and the King of Navarre was not many steps therefrom; they being the two first princes of the royal blood. The old four factions of the time of Henry II. had decomposed by this time into two great parties, and involved in their dispute the passions of the whole French nation. At the head of one party, which included all the Huguenots, were the slighted members of the high French nobility; at the head of the other party, which included all the Catholics, were the Guises, aliens in blood, who had then their advantage in a tight grasp of the reins of power. The parties to the great dispute upon theology, the Huguenots and Catholics, had

been respectively invited to ally themselves to opposite sides in a fierce quarrel among great men for court influence: they fell accordingly into opposing ranks, and with their strong, deep passions, overwhelmed the mean first cause of the dispute, which rapidly resolved itself into a civil war upon the angriest of topics.

Queen Catherine of Medicis, who, by the elevation of her second son, was now continued in her title of queen-mother, had for a long time been troubled by the clang of parties, and the quarrel of court factions for predominance. Wisely advised, she determined, when her boy Francis was released by death from the dominion of the Guises, to preserve her next son, Charles, if possible, and France at the same time, in a more tranquil state. The heads of each faction, even while Francis shifted restlessly upon his death-bed, lavished promises of faithfulness upon the mother, and endeavoured to secure her as a close ally. She repelled neither, she embraced neither, but she reconciled all to herself. The King of Navarre, renouncing his claim to a regency in favour of Catherine, was made lieutenant-general of the kingdom, ostensibly reconciled to the Guises, who continued powerful at court. The Prince of Condé came with honour from his prison. The court smiled upon the discontented nobles, who returned to favour, the great Constable Montmorenci among the rest. The veteran, when he first knelt before the little king and kissed his hand, was moved to tears: "Sire," he said, "do not fear the present troubles. I will sacrifice

my life, and so will all your faithful subjects, for the preservation of your throne."

The constable, according to his conscience, kept his word. Every act tended to conciliation. The policy of the queen-mother prevailed, and the monopoly of power was taken from the Guises. The Bourbon party lost no opportunity of causing their old enemies to feel the change; the Guises maintained a proud front, and as they still enjoyed much manifest favour, complaint grew against them even in their humbler state. At last the King of Navarre, Coligny, D'Andelot, Cardinal Châtillon, and the chief nobility, with Constable Montmorenci to support them, carried the old dispute so far as to call out their horses for a ride to Paris, from the court at Fontainebleau, declaring that if the Guises were not banished, they would cause the parliament of Paris to declare Antony, King of Navarre, the regent of the kingdom. At the critical moment, Montmorenci was summoned to the presence of the young king, who commanded him to remain about his person. The old constable was not prepared to be disloyal, and remained; his friends, unable to get on without him, sent their horses back into the stables, and all stopped at Fontainebleau to play a round game at negotiation.

The object of Queen Catherine was, if possible, to offend neither of the contending parties, and to hold them so well balanced that she might sway either as she pleased, and it was her desire to exert all her influence for the maintenance of peace. The Guises, following their own

ends, and not confiding greatly in the queen, allied themselves with the ambassador of Spain, whom Philip II. had sent over to maintain his interests, and who was disposed to meddle actively in the affairs of France. This dangerous alliance boded so much the ascendancy of Catholic intolerance, that Catherine considered it her policy to set the balance right by showing favour to the Calvinists. She carried her tolerance to the point of an apparent preference for the Reformed religion, and in that way very much shocked the orthodox old constable, who bade her pay more pious heed to the appointed fast days of the Church.

At the same time the parliament of Paris was propounding counsels of political and financial reform. The King of Navarre was to be regent, the Guises and all priests were to be dismissed from participation in state business. Account was wanted of all gifts made by the late kings to the Guises, to Diana of Poitiers, to the constable, the Marshal of St. André, and others.

The Marshal St. André and Diana had aforetime been very active in procuring the confiscation of property belonging to the Huguenots. They were of course, therefore, fair subjects for retaliation. Uniting their interests in self-defence, they combined to alarm the constable by making him believe that the orthodox religion was to be abolished in the first instance, and after that there was to be confiscation of his property. The old man, possessed with such ideas, was obstinately deaf to the re-assurances

of his eldest son, the marshal, and of his nephews, the Châtillons, and making common cause with his old political opponent, the Duke of Guise, and with the Marshal St. André, he formed with them what was entitled a triumvirate. A Catholic league was planned, with Philip of Spain at the head, and plots were laid to win over to the Catholic cause the easy-minded Bourbon of Navarre. His relations with his neighbours of Spain caused that task to seem by no means difficult. The queen endeavoured still to maintain peace, but as the chancellor informed the parliament of Paris, "The Devil had taken care of the religious contests," and there was no peace to be had.

In July, 1561, the Chancellor L'Hôpital addressed an edict of tolerance to all the presidial courts. Outbreaks of intolerance were the immediate result. In every district where the Huguenots prevailed, they triumphed in their privileges; where the Catholics prevailed, the edict was rebelled against. New tactics being requisite, the parliament in the next place decreed that punishment of death should be abolished in the case of those condemned for participating in heretical assemblies. It was ordained also that there should be peace throughout the kingdom, and that no levies should be made without the king's permission. Priests and ministers were respectively commanded to cease from abusive language. Calvinists were not allowed to hold assemblies; bishops were to punish heresy, but with no penalty more grave than banishment. The edict was not well observed. The queen's favour

enabled the Huguenots to meet even at court, and in some places they wrested even the churches of the orthodox to their own use.

Then there were assemblies. There was the colloquy of Poissy, an elaborate theologic wrangle, held on the 9th of September in the same year. Good never came of theologic wrangle, whether two men or two hundred were the parties to it; and so no good followed from the colloquy of Poissy. Each side, of course, confidently claimed the victory. To win the pleasure-loving King of Navarre to the side of the Catholics, it was proposed that he should divorce his old wife, Jeanne d'Albret, for heresy, and take as a new one Mary Stuart, with the crown of Scotland. The king was not tempted, however, either by Mary on the one hand or by Margaret of Valois, the king's sister, whom Catherine offered him by way of counter-bribe to Mary. The King of Spain knew better how to bribe, by promising the island of Sardinia, at the same time that Antony was reminded of the subordinate position he would hold among the heretics, who regarded as their leader, not the King of Navarre, but the Prince of Condé. Antony then formed alliance with the Duke of Guise, and openly espoused the faction of the orthodox, celebrating the event with a grand procession.

While these intrigues took place among the leaders, tumults and riots were increasing throughout the country. Queen Catherine and the Chancellor L'Hôpital still laboured to promote peace by edict; and as the last

edicts had been unavailing, deputies from all the parliaments assembled at Saint-Germain, in January, 1562, contrived another. Usurped churches were to be restored, and orthodoxy honoured; but the heretics were to be allowed to meet for worship, unarmed, and outside the towns. Their ministers were to abstain from all invective against the ceremonies of the Established Church, but to promote kind feeling to the utmost of their power. In places where the heretics were weak, this edict was rejected; where parties were balanced, the opposition of the orthodox had to be put down by force of arms; in some places, as at Barjols, the heretics displayed that furious and cruel temper which is by no means the peculiar attribute of any one sect of contending Christians.

The edict of January was attributed by the heretics to the success of their representatives—Beza the chief—in the colloquy of Poissy. They thought that all doubts were removed; and in some places, fortified by the edict and the favour of the queen, they shared the temples with the priests, who yielded to them sometimes out of fear, and sometimes half disposed to take part with the ascendant doctrines. As for the king, by whom of course the edict had formally been issued, songs were made in his honour; he was claimed as a reformer, and significant anagrams were found to be connected with his name, Charles de Valois : *Va chasser l'idole—Chassa leur idole.*

The Guises had at this time quitted the court. The Pope's legate and the Spanish ambassador, remaining near

the king, worried the queen-mother, who repaid them with cold looks. The King of Navarre, enamoured of a maid of honour, Rouhet de la Béraudière, could not patiently find time to spare for other topics. The veteran Montmorenci and the Marshal St. André seemed to be the only active heads of the great Catholic party; while the Prince of Condé was drilling Huguenots, and Coligny and D'Andelot rejoiced at court in the smiles of Catherine of Medicis.

But the Guises had left the court not to seek rest, but to employ themselves in active preparations for a struggle. The King of Navarre being impatient of the ascendancy obtained by his brother, the Prince of Condé, in Paris, the Duke of Guise was summoned to exert himself. He left Joinville for Paris, with his brother the cardinal and a numerous suite, at the end of February. In passing through Vassy, on the frontier of Champagne, his attendants disturbed the service of a Huguenot congregation with disputes that mounted very soon from words to blows, from fists to stones. The duke, coming to calm the riot, was struck with a stone. The flowing of his blood, say Catholic accounts, produced a rage among his people, and resulted in a massacre. Huguenots told that the whole matter was premeditated, and that the townspeople were charged upon to the sound of the duke's trumpets. The duke declared upon his death-bed that the massacre was accidental, and we take his word, for certainly he was not a dishonourable witness. Three hundred, of every age

and either sex, were slaughtered at Vassy. The Huguenots brought their remonstrance to the queen, and were heard with favour ; the King of Navarre, the lieutenant-general, declared them to be factious heretics. The Duke of Guise and Montmorenci at the same time made a triumphal entry into Paris.

The massacre of Vassy was being imitated at Cahors, at Sens, at Auxerre, and at Tours, in which places more than a thousand perished. Three hundred of these were shut up in the house of God to starve for three days before they were taken two by two for slaughter on a river bank. There were little children, who had not been murdered with their parents, sold for a dollar apiece. There was a beautiful girl killed naked, that vile eyes might contemplate the paling of the skin, and the whole sudden change of beauty to the ghastliness of death. Such cruelties there were that dotted with a deeper black the massacres in Aurillac, Nemours, Grenades, the new town of Avignon, Marsilagues, Senlis, Amiens, Abbeville, Meaux, Châlons, Troze, Bar-sur-Seine, Epernai, Nevers, Châtillon-sur-Loire, Gien, Moulins, Yssoudun, le Mans, Angers, Cran, Blois, Mer, and Poitiers. In all these places, massacres succeeding that of Vassy preceded the first outbreak of the civil war.

The Prince of Condé, finding it impossible to recover Paris from the hands of the Guises and Montmorenci, their new ally, endeavoured to collect at Meaux all forces that were available for action. He wrote to summon to

his aid Coligny and D'Andelot, telling them, in reference to the events at Paris, "Cæsar has not only crossed the Rubicon, but he has taken Rome." Cardinal Châtillon and D'Andelot, with Senlis, Boucard, Bricquemant, and others, were assembled in the dwelling-place of the admiral, at Châtillon-sur-Loire. The admiral shrunk from the step which pledged him to a part in civil war, and for two days resisted the arguments of his companions. To the complaints of his wife, however, uttered in the mid-watches of the night (her important curtain-lecture is on record*), Coligny yielded. As the *Sieur d'Aubigné* relates, "The persuasions of a well-beloved voice and of a proved faith were so violent that they set the admiral on horseback to ride in search of the Prince of Condé and his friends at Meaux."

Catherine, fearing violence, carried the king from Monceaux, an undefended country-house, to Melun, and again to Fontainebleau, after having written to call Condé to her aid. The triumvirs, with a troop of cavalry, followed to Fontainebleau, where they told the queen that they required the presence of her son, and that she might

* *D'Aubigné* relates it, from the evidence of the parties concerned. "We lie here a-bed in luxury," the lady said, in the course of her discourse, "and the bodies of our brothers, flesh of our flesh and bone of our bone, are some in the prisons, some in the fields, where they lie at the mercy of the dogs and crows; this bed is a tomb to me, because they have no tombs; these Curtains reproach me, for they sleep without a shroud." The discourse was delivered to Coligny, with the usual preface of sobs, two hours after he had said "Good night." So *D'Aubigné* informs us.

accompany him or leave him, as she pleased. Menaces and prayers were in vain, and the queen-mother, clasping the boy in her arms, travelled away among the soldiers. The king, being then taken to Paris, was received with joy, and as the triumvirate now had, at least in a literal sense, the royal countenance, their acts against the Calvinists assumed a more determined character. The constable in Paris, at the head of troops equipped as for a severe campaign, charged into the suburbs among the churches used by heretics, broke open their gates, and dragged their pulpits and their benches out to make great bonfires for the delectation of the people. This exploit amused the wits of Paris, who forthwith honoured Montmorenci with the name of Captain Burn-a-bench (Le Capitaine Brûle-Bancs). "Burn-a-bench," however, reads to our eyes much better than "Burn-a-man." The constable was versed in war, but had no appetite for massacre, and the complete equipment of the troop he led to perform so trivial a work, precisely served its purpose, by discouraging resistance, in preventing bloodshed.

The Prince of Condé, at the head of three thousand horsemen, was on his way to Fontainebleau, obedient to the urgent missives of the queen, when he had tidings of the capture of the court, and its removal into Paris. "The plunge is made," he said to Coligny, "and we have gone so far that we must drink or drown." He hurried with his troops to Orleans, where D'Andelot was with some difficulty holding the town against the Catholics. The troops brought by Condé decided the

struggle, and the heretics, possessed of Orleans, established their head-quarters in that town. Thither they summoned all good Frenchmen to repair, and aid in the deliverance of the king and the queen-mother out of the hands of the triumvirs.

The Guises were accused in manifestoes as the authors of all mischief and all intolerance. They replied that whatever was imputed to them, must be imputed also to the King of Navarre. As for the accusation of intolerance, had not the king, while in Paris, confirmed that very edict of January which had pleased the Huguenots so much? It was only in Paris and the neighbourhood of the court that heretics were denied the right of preaching. Manifestoes were in fashion, issued from both sides, and taking every shape of threat, complaint, promise to lay arms down on condition. Each side was in the mean time occupied in raising troops and finishing its preparations for the contest. Since the conspiracy of Amboise, minor struggles, levies of soldiers, besieging of towns, wasting of crops, had been perpetrated by such private adventurers as Maugiron in the Dauphiné, Montbrun in the Comtat-Venaissin, and the brothers Mouvans in Provence. These, however, were mere drops before the storm. The fury of the storm itself was on the point of breaking, when the great mass of the French people became divided into two great factions, represented by two armies, one within the walls of Orleans, and one within the walls of Paris.

The leaders looked abroad for aid, and in so doing

employed the usual devices: when the orthodox sought Protestant allies, they said that they were preparing to subdue not heretics, but rebels; and when the heretics laboured abroad for orthodox assistance, they pleaded that they did not fight to subdue the old religion, but to release the king and queen from their audacious captors.

Queen Catherine, meanwhile, who attempted to supply the want of masculine vigour by substituting for it in the management of public affairs feminine tact, accepted the new position that was forced upon her, and endeavoured to act in it, still in pursuance of her old desires. When there came from the Duke of Guise letters to the provinces, commanding death to all the malcontents, there came in the same packets letters from the queen, commanding that mercy should be shown to all. Both wrote in the king's name; and when the puzzled magistrates went, as they sometimes did, to court for definite instructions, they could get no satisfactory answer.

The confederates of Orleans, having formed a league in opposition to the league which bound their enemies together, having sworn to deliver the king, to put down profanity, uphold the edict of January, and obey the Prince of Condé as their lawful chief, incited a rising throughout France of their adherents. Troops were brought into Orleans from all the provinces by the brothers Châtillon, La Rochefoucault, Rohan, Genlis, Grammont, and other seigneurs. The army in Paris, having the king to show, called itself royalist; but the

greater number of the nobles was attached to the cause headed by the Prince of Condé. In the beginning of June, the two armies, each numbering eight or ten thousand, took the field, the one bent on delivering the king, the other eager to lay siege to Orleans.

Before the contest, at the intercession of Queen Catherine, a last discussion, a last attempt at reconciling differences, was demanded. In it the heretic chiefs promised for themselves and for their followers, by way of oratory, more than they intended to perform; and being unexpectedly and inconveniently taken at their words by the queen-mother, they escaped only by the breaking of their pledge. Instead of marching like heroes into voluntary exile for the sake of peace, they suddenly marched down upon the royalists to give them battle unexpectedly. The orthodox, however, were not to be taken by surprise, and the heretics turned off to besiege Beaugenci, which town they took and pillaged. The Huguenot soldiers sang psalms in their camp, and had many hours of prayer from sunrise until sunset; but the sack of a town, never a pious scene, will not endure description where all evil passions that belong to it are heightened by fanaticism. Whatever inhumanity the Huguenots displayed in Beaugenci, was equalled by the royalists in Tours, Poitiers, and other towns which they succeeded in delivering to pillage.

The queen, by letters, urged the Prince of Condé to submit to a conciliatory policy, and warned him that an edict was preparing of the utmost severity against the

heretics, that the king himself would be placed at the head of the royalist army, and that reinforcement was expected from abroad.

The time for conciliation was, however, past. The declaration foretold by the queen was made at the end of July, wherein the king declared all those who were in arms against him guilty of treason, condemned them to death, confiscated their property, and deprived all their posterity of title to bear charges or honours in the kingdom. Only the Prince of Condé was excepted from the condemnation, because it was thought prudent not to drive him to despair. The confederates replied that they were no traitors, but that they refused submission to the house of Guise ; and the old work of civil war, tumult, massacre, battle, and siege, went on.

Every town in France was filled at that time with the riot of contending factions. In Saintes, as Palissy has told us, M. de la Boissière had won an ample congregation, and the heretics of Saintonge had made their voices potent. "In those days," says Palissy, "the priests and monks were blamed in common talk, that is to say, by enemies of the religion, and they said thus: 'The ministers make prayers which we cannot deny to be good. Why is it that you do not make the like?' which seeing, Monsieur, the theologian of the chapter, betook himself to making prayers like the ministers; so did the monks, who were paid salaries for preaching; for if there was a shrewd brother, awkward customer, and subtle argu-

mentator among the monks in the whole country, he must be had in the cathedral church. Thus it happened, that, in those days, there was prayer in the town of Xaintes every day, from one side or the other." This constant prayer is a fearful preface to a bloody contest. Palissy describes also very pithily the alarm of the tithe-owners at the refusal of the country-people to pay for church service, unless preachers were provided for them, citing the odd case of an orthodox attorney who got into the pulpit and preached heresy himself, in order that he might receive his money. "In those days," he tells us, "deeds were done worthy enough to make one laugh and weep at the same time; for certain farmers, hostile to the religion, seeing these new events, betook themselves to the ministers to pray that they would come and exhort the people of the district which they farmed, and this in order that they might be paid their tithes. I never looked so merry, though I wept the while, when I heard say that the attorney, who was criminal-notary when suits were brought against those of the religion, had himself made the prayers, a little while before the devastation of the church in the parish of which he was farmer. It is to be decided whether, when he himself made the prayers, he was a better Christian than when he made out the indictment against those of the religion; *certes*, he was as good a Christian when he made out the indictment as when he made the prayers, provided that he made them only to get out of the labourers their corn and fruit."

“The fruit of our little Church,” says the Potter, speaking, it is to be remembered, of a Church which he himself had founded—“the fruit of our little Church had so well prospered, that they had constrained the wicked to become good; nevertheless, their hypocrisy has been since then amply made manifest and known; for when they had license to do evil, they have shown outwardly what they kept hidden in their wretched breasts. They have done deeds so wretched that I have horror in the mere remembrance, at the time when they rose to disperse, engulf, ruin, and destroy those of the Reformed Church. To avoid their horrible and execrable tyrannies, I withdrew myself into the secret recesses of my house, that I might not behold the murders, cursings, and indecent deeds which were done in our rural glades; and being thus withdrawn into my house for the space of two months, I had warning that hell was loose, and that all the spirits of the devils had come into the town of Xaintes: for where I had heard a little while before psalms, canticles, and all honest words of edification and of good example, I heard only blasphemies, blows, menaces, tumults, all miserable words, dissoluteness, lewd and detestable songs; in such wise, that it seemed to me as if all virtue and holiness on earth had been smothered and extinguished: for there issued certain imps out of the Château of Taillebourg, who did more ill than the demons of antiquity. They, entering the town, accompanied by certain priests, with naked sword in hand, cried, ‘Where are they?’ They must cut

throats immediately; and so they did to those who walked abroad, well knowing that there was no resistance; for those of the Reformed Church had all disappeared."

This disappearance of reformers from the town of Saintes is explained to us in a contemporary chronicle. The Count de la Rochefoucault had held at Saintes a little synod to assert the justice of the Huguenot cause, and with the troops thus augmented had made a vain attempt on Rochelle, then taken Pons by assault, and attacked St. Jean. Before St. Jean he heard that Duras, an ally, whom he expected on the way to join him, had been attacked near Vers by our old friend Montluc, and had been thus compelled to change his course. The march of La Rochefoucault to join Duras was joined by nearly all reformers of the district able to bear arms, "especially," says the historian, "by those of Saintes;" which town, being thus deprived of its soldiers, was taken by Nogeret, a hostile leader, "who rudely treated all those who remained, in execution of a decree from Bourdeaux, by which the lives of the reformers were abandoned without appeal to the mercy of any royal judge whatever." Among those who remained was Palissy, who thus describes to us the horrors that made part of his experience while he continued for two months secretly persevering in his labour as a potter, and avoiding prudently the dangers of the street:

"In any case to find evil, they took a Parisian in the streets, who was reported to have money; they killed

him without meeting any resistance, and exercising their accustomed trade, reduced him to his shirt before life was extinct. After that, they went from house to house, to seize, sack, gluttonise, laugh, jest, and make joy with all dissolute deeds and blasphemous words against God and man; and they did not content themselves with jesting against man, but they also jested at God; for they said, that Agimus had beaten the Eternal Father.

“In that day there were certain persons in the prisons, to whom the pages of the canons, when they passed before the said prisons, said, jesting, ‘The Lord will help you;’ and they said to them again, ‘Now say, Avenge me, espouse my cause.’ And some others, beating with a stick, said, ‘The Lord be merciful to you.’ I was greatly terrified for the space of two months, seeing that the link-boys and blackguards had become masters at the expense of those of the Reformed Church. I had nothing every day but reports of frightful crimes that from day to day were committed; and it was of all those things the one that grieved me most within myself, that certain little children of the town, who came daily to assemble in an open space near the spot where I was hidden (exerting myself always to produce some work of my art), dividing themselves into two parties, and casting stones one side against the other, swore and blasphemed in the most execrable language that ever man could utter; for they said, ‘By the blood, death, head, double-head, triple-head,’ and blasphemies so horrible, that I have, as it were, horror in writing them. Now, that lasted a long while, while

neither fathers nor mothers exercised over them any rule. Often I was seized with a desire to risk my life by going out to punish them; but I said in my heart the seventy-ninth Psalm, which begins, ‘O God, the heathen are come into thine inheritance.’ ”

The children playing in the street at Catholic and Huguenot, and cursing one another, form indeed a feature of the civil war more horrible than massacres themselves.

The workshop of Palissy, which had been erected for him partly at the expense of the Constable Montmorenci, did not long shelter him from harm. It was thrown open to the feet of a wild rabble, supported by the officers of justice, and all the pottery on which he had been employed was broken. Palissy held for his protection a safeguard from Louis de Bourbon, the first Duke of Montpensier, and nearly all the great men of Saintonge were his patrons and his friends. But he had been too bold an advocate of heresy to be omitted from the list of the proscribed. There were friends who in the daytime might have interfered on his behalf. At night, therefore, the trampling of the officers of justice at their door awoke the family of Palissy. Under the starlight he was hurried to a dungeon at Bourdeaux, the waiting-chamber to the scaffold.

END OF VOL. I.

PALISSY THE POTTER.

PALISSY THE POTTER.

THE LIFE

OF

BERNARD PALISSY, OF SAINTES,

HIS LABOURS AND DISCOVERIES IN ART AND SCIENCE;

WITH AN OUTLINE OF

HIS PHILOSOPHICAL DOCTRINES,

AND A TRANSLATION OF

ILLUSTRATIVE SELECTIONS FROM HIS WORKS.

BY HENRY MORLEY.

Je n'ai point eu d'autre liure que le ciel et la terre, lequel est connu de tous,
et est donné à tous de connoistre et lire ce beau liure."

PALISSY.

IN TWO VOLUMES.

VOL. II.

LONDON :

CHAPMAN AND HALL, 193, PICCADILLY.

1852.

KING ALBERT'S COLLEGE
WINCHESTER
SPECIAL COLLECTION

973 809 44

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PALISSY THE POTTER.

CHAPTER I.

PALISSY RESCUED—THE DEDICATION OF HIS SECOND BOOK.

IMPRISONMENT of Bernard Palissy implied stoppage of decorative works upon the premises of many wealthy people. Palissy put to death meant the extinction of an ornamental art. Great men required the service of the Potter, and stretched forth their hands, therefore, to withdraw him from the gallows. Perhaps they were incited to their efforts by his virtue also.

Palissy in Saintes had been protected by the leading men of either faction. By the Catholics it was well known that he worked for Montmorenci, in a building that had been erected for him partly by the constable himself; he held also a document, signed by the Duke of Montpensier, forbidding the authorities "to take cognizance of or undertake anything against him or his house." This had been

conceded for the express purpose of ensuring the completion of the work in progress for the Constable Montmorenci. To the reformers it was known not only that he sympathised in their religious views, but that the Count de la Rochefoucault had forbidden all intrusion on the workshop of the artist.

Nevertheless, Bernard had been prosecuted by the dean and chapter of his town—men, he says, “who have none occasion against me, except in that I have urged upon them, many times, certain passages of Holy Writ, in which it is written that he is unhappy and accursed, who drinks the milk and wears the wool of the sheep, without providing for it pasture. And by as much as that ought to have incited them to love me, they have therein made for themselves occasion to desire that I should be committed to destruction as a malefactor ; and it is a true thing, that if I had depended on the judges of this town, they would have caused me to be put to death, before I should have been able to obtain any assistance.”

The Sire de Pons and his lady—the Sire de Pons being king’s lieutenant in Saintonge—had interfered in time to prevent the complete annihilation of the workshop of Palissy, which had been decreed by the wise men of Saintes in their town-hall. But Palissy was carried off “at night by bye-roads to Bourdeaux.” From the parliament of Bourdeaux he could have no mercy to expect, and once at Bourdeaux, the only rescue that would be available must be the king’s hand stretched out from the throne. The

king's lieutenant in Saintonge, the Sire de Pons, had power to control the justices of Saintes; but the parliament of Bourdeaux, in its district, swayed the powers of the king, and the justices of Saintes well knew that if they could carry Palissy to Bourdeaux, and there place him at the mercy of the parliament, the interference of the king himself alone could save him.

The Sire de Pons immediately exerted himself; the Seigneur de Burie and the Seigneur de Jarnac were equally prompt to communicate with Montmorenci. Palissy, in a dedicatory epistle to his great patron, the constable, quietly assigns the motive of their zeal in his behalf. He had said how the Duke de Montpensier gave him a safeguard, "well knowing that no man could bring your work to a completion but myself." He adds, that when he was imprisoned, the above-named seigneurs "took great trouble to cause me to be delivered, with the design that your work might be completed." If Palissy had not acquired his secret as a potter, if his death had not meant the extinction of an ornamental art, in that year 1562 he would have died upon the gallows.

Montmorenci, being suddenly informed by his good friends upon the spot of the fate that threatened the ingenious Potter, Master Bernard, lost no time in addressing the queen-mother, and securing the safety of his workman. Queen Catherine, who would, of course, in so trifling a matter oblige the great constable, had also a taste for the patronage of clever artists. An edict was therefore issued

in the king's name, appointing Palissy inventor of Rustic Figulines to the king and to the constable. This removed him from the jurisdiction of Bourdeaux ; for, as a servant of the king, his cause could come under no other cognizance than that of the grand council. By the same edict Palissy received also, of course, such encouragement as public honour might afford him in the prosecution of his art. The court protected Master Bernard not because he was a shrewd observer, a good naturalist, or a pure-minded reformer; the honour of its protection was bestowed on Palissy the Potter, worker in earth; according to his own designation of his calling, "Worker in Earth, and Inventor of Rustic Figulines."*

The men who have just been named as intercessors for the life of Palissy, were men of mark in their own time, whose names are constantly recurring in contemporary records which extend over a large part of the sixteenth century. The Seigneur de Burie was an old man who had fought in Italy, and whose name has already occurred upon these pages, in connexion with the early campaigns of Montluc. He belonged to an ancient house of Saintonge, and was now lieutenant-general of the king in Aunis, under the orders of Antony, King of Navarre. The Seigneur of Pons, which is a town not far from Saintes, was, as we have seen already, the king's lieu-

* "Ouvrier de Terre, et Inventeur des Rustiques Figulines." The meaning of the term, "Rustic Figuline," has been explained in a preceding chapter. Vol. i., page 212.

tenant in Saintonge. He was also Count of Marennnes, the famous salt-district. The Seigneur de Jarnac, Governor and Seneschal of Rochelle, was a veteran soldier, chiefly famous for his duel, fifteen years before this civil war, with the Seigneur de la Chateigneraie. As the story of that duel illustrates the times, it may be worth narrating.

In the last year of the reign of Francis I., scandal arose at court, which very much concerned the Dauphin Henry. Jarnac had communicated to the dauphin flattering intelligence from a great lady of the court, which the imprudent dauphin had confided to some friends. His friends increased the circle of the revelations, and the enemies of the great lady, hearing the story, published it abroad, and made the best or worst use of it they could against her. The king, incensed, proceeded to inquire with whom the scandal had originated. The dauphin, who was no great favourite with his father, and had fallen recently into disfavour by seeking the recal of Montmorenci, dared not avow his fault. To check further inquiry, a friendly knight, the Seigneur de la Chateigneraie, stepped forward and declared that the unwelcome rumours had originated with himself. Chateigneraie was one of the two or three most formidable knights in a court that laid the greatest stress on chivalry, and was accordingly a favourite companion of the king. He could literally take a bull by the horns, and felt, therefore, that he incurred little risk in doing so metaphorically in the present instance, to protect the dauphin. Jarnac felt

compelled to challenge the camp Hercules, who, with the true instinct of a game-cock, crowed in advance over an easy victory. The challenge was of course accepted, and King Francis dying, the combat, which took place at sunset, in the park of St. Germain en Laye, before the new King Henry and the assembled court, was one of the first acts at which Henry assisted after his accession to the throne. Chateigneraie, who could hurl his lance into the air and catch it three times in succession, while he galloped at full speed over a plain, prepared a feast beforehand in his tent to celebrate his victory. Jarnac was accounted a doomed man, but by a dexterous stroke, known to this day in duels as the *coup de Jarnac*, he wounded his opponent in the ham, and vanquished him completely. Chateigneraie lay bleeding under the sunset on the green-sward of the park, and was carried thence, not to the feast prepared within his tent, but to the bed on which he was to while away the few remaining hours of life. The laurels of this victory were always green upon the head of Gui de Chabot Jarnac, who now, some fifteen years after the duel, united with the Sire de Pons and the Seigneur de Burie in intercession for the life of Bernard Palissy.

It is a coincidence of no very startling character, although perhaps worth naming, that the edict against reformers, under which Palissy was arrested, had been dated by Henry II. from Ecouen, in June, 1559; while it was from his own labours at Ecouen that Palissy derived the patronage which saved his life.

Palissy, saved from the power of the parliament* of Bourdeaux, and being thoroughly protected now against hostility from the belligerents on either side, returned to his family, and quietly resumed his occupations in the half-depopulated town of Saintes. Churches had been battered, and antiquities destroyed. Friends of the Potter had been slaughtered in the streets, or sent to die upon the gallows. The workshop of Palissy had been thrown open to the sky, and its broken doors invited the intrusion of the people. Bernard made the requisite repairs, and wiped away the traces of the interruption, while he not only resumed his old work, but also his old habits among the woods and fields, and his old way of speaking freely what he felt to be the truth. The prison of Bourdeaux, and his near escape from death, inspired him with so little terror, that the first months of recovered liberty were occupied in seeing through the press of Barthelemi Breton,

* The word "parliament," which occurs often in this narrative, must not incautiously be taken in our English sense. There were in France thirteen parliaments, sovereign courts, lay and ecclesiastic, high courts of appeal for their respective districts. There were attached to them notaries, attorneys, fiscal attorneys, attorneys-general, &c., each court having, of course, a president. They had cognizance of civil and criminal cases, made special laws, and represented to those under them the power of the king. The most ancient, and for a long time the only parliament, was that of Paris, which gave immediate assistance to the king in his deliberations, and both by seniority and influence deserved the first rank among others of its kind. It was often spoken of simply as "*The Parliament.*" Other parliaments were instituted in different provinces at different dates; that of Bourdeaux was the fourth, but the exact date of its establishment is unknown.

at Rochelle, a little book which he proposed to dedicate to the queen-mother and the Constable Montmorenci, and in which, among other matter, he did not scruple to utter with the utmost freedom his opinions as a Huguenot. No man had any right to put his mind in fetters, no man had power to make Palissy afraid, and so the simple-hearted Potter thought and spoke what seemed to him the necessary truth with tranquil honesty.

The book which Palissy, after his rescue from prison, busied himself in seeing through the press, contained treatises on four subjects, namely, agriculture, natural history, the plan of a delectable garden, to which is appended a history of the troubles in Saintonge, and the plan of a fortified town, which might serve as a city of refuge in those times of trouble. The treatises, containing part of the experience of his past years, had probably been written before his imprisonment, since it is only in his prefatory matter that he has made reference to that event. The book into which they are collected, in which one of the leading objects is to instruct men to avoid the enormous waste occasioned to the fields by defective care of the manure, is thus entitled: "A Trustworthy Receipt, by which all the men of France may learn how to multiply and augment their Treasures. *Item*.—Those who have acquired no knowledge of Letters, may learn a Philosophy necessary to all dwellers in the earth. There is also contained the design of a Garden as delightful and useful in invention as ever has been seen, with the design

and arrangement of a Fortified Town, the most impregnable of which men have ever heard.”* This book was published in a quarto form at Rochelle, by Barthelemi Breton, in the year 1563, being the year succeeding that in which Palissy had been committed to the dungeons of Bourdeaux.

The prefatory matter in the first pages of Bernard's book, his second book, according to his own phrase, but the first of which there remains to us authentic information, includes the usual modicum of recommendatory verse. This verse is of the usual quality. “F. B. to Bernard Palissy, ‘his singular and perfect friend,’ and to the reader,” rhymes in a way that deprives us of all curiosity to ascertain the other letters of his name. Pierre Sanxay, to a quick tune, dances before the book with a most lusty song of praise. “Through all past ages,” he says, “Nature, mother of things, these heaped treasures has hidden under her wings. Man when he was a child, with wonder could not fill us.

* *Recepte Véritable, par laquelle tous les Hommes de la France pourront apprendre à multiplier et augmenter leurs Thresors. Item.—Eux qui n'ont jamais eu connoissance des Lettres, pourront apprendre une Philosophie nécessaire à tous les habitans de la terre. Plus y est contenu le dessein d'un Jardin autant délectable et d'utile invention qu'il en fût oncques vu, avec le dessein et ordonnance d'une Ville de Forteresse la plus imprenable qu'homme ait jamais ouï dire.* To make the title more attractive, a publisher who issued the works of Palissy, in 1636, Robert Fouet, entitled them all, “How to grow Rich”—“Le Moyen de devenir Riche,” and “La Manière véritable par laquelle,” &c. Several French writers, and Voltaire among them, knowing the works of their great Potter only by this title, have leapt to the conclusion that he was an alchemist!

Hercules, or Adam's nephews, built a pair of pillars; Greece has gotten credit for some Caryatides, Egypt for the bigness of her Pyramids; we remember the Carian sepulchre, and the ancient amphitheatre crowns Cæsar with glory; but none of those things come near the Rustic Figulines: they are so well painted, and so ingeniously imagined. The before-named trifling works, namely, the Straits of Gibraltar, the monuments of Greece, the Pyramids, and the Coliseum, required thousands of makers, but the best of them was not equal to a basin made by you, Palissy, alone. The best of them has been bettered by eloquence, but yours are better than the powers of speech. The ancients counted seven wonders in the world; had they seen yours, it would have ranked before the first. Apelles painted better than Parrhasius, Parrhasius better than Zeuxis; but you beat them all. The high and thick rock pours no clearer water than that which you pour in a mimic fall."

At this point Pierre Sanxay becomes luminous. I have quoted the matter of his praise thus far, as an amusing illustration of what used to be done in the old days, when no book could go abroad respectably unless, like the ark of the covenant, it had some worthy men to dance before it, singing songs of triumph. But Pierre begins now to be particular in his laudation, and to specify some works of Palissy which he holds to be peculiarly superior to the Straits of Gibraltar and the Pyramids. We have already referred to the rustic grotto erected by Palissy for Mont-

morenci, in the gardens of Ecouen, the site of which was afterwards known as the Fontaine Madame. There can be little doubt that the reference of Pierre Sanxay is now to this device. The rock from which the cascade fell was entirely and literally made by Bernard, being a grand specimen of his painted pottery. Rustic figulines of frogs and fishes were placed in and about the water, lizards were put upon the rock, and serpents scattered in the grass. The allusion to Apelles and Zeuxis may very possibly have been suggested to the mind of Pierre Sanxay by a connexion between the story of the grapes by which the birds were cheated, and the figure of a dog modelled and painted by Bernard, and placed at his workshop-door, which had been invited out many times to single combat by perplexed dogs belonging to the town.

Alluding to such works, and probably with a direct reference to the grotto at Ecouen, Pierre Sanxay goes on to say to the author of the "Trustworthy Receipt:" "A Tarentine Archytas made the flying dove; but you make, in argentine course, a troop of fishes swimming.* The frogs in a pond are not more infinite; but your frogs do not need to croak, for they are seraphim. Megæra to the hideous chief took baleful serpents; but you, not less ad-

* It would be easy to make mimic-fishes that would float and dance about in water agitated by a cascade; but the poet has probably fallen a victim to the illusion which Bernard tells us he wished to produce, by placing on the margin of his fountain enamelled fishes, similar in appearance to the living creatures that were set to swim about in the transparent water.

venturous, make serpents things of light. The lizard on the moss has not more native lustre than the lizard in that house which is made famous by your new work. The herbs look not sweeter in the fields, and green meadows are not more preciousy enamelled, than those which grow under your hand. Cold, moisture, and heat, wither all other herbage ; whatever may be the weather, yours can take no harm. I will be silent now, and only say that of a better treasure your rich nature gives us revelation in yourself."

Therein we may heartily agree with Pierre Sanxay ; for in the book to which his verses are prefixed, there is no higher charm than that which we derive from the pure, natural outpouring of Bernard's mind. In a book published fifteen years later we find the results of his matured experience, and the whole sum of his acquirements as a naturalist who had pushed forward far beyond the knowledge of his time. In this book we find Bernard labouring onward, writing in the simplicity of an unlettered man, whom God has gifted with a quick and subtle genius, who, with the perfect mind of a philosopher, and fearlessness of manly thought and speech, is naïve and single-hearted as a little child.

The letters written after his release, by Palissy, and prefixed to his book, are addressed respectively to the constable and to his son, to the queen-mother, and to the reader. To the eldest son of the constable, the Marshal de Montmorenci, Governor of Paris, the first letter speaks ;

and it commences with an idea repeated solemnly by Palissy in other writings, which was, indeed, the mainspring of his intellectual machinery. The parable of the Talents—the duty of every man placed in the world to see how he might turn all his powers to account, and do the utmost good of which his mind was capable—was the touchstone by which Bernard tried the temper of his industry. This religious feeling, aiding and strengthening his natural activity of mind, forced Palissy to pursue with energy every path by which he thought he could arrive at truth. He never remained satisfied with what was done, for there was always more to do. He laboured ever forward in his art; he studied nature, not as a recluse, but as a man ready to seek every opportunity of turning his discoveries in science to the practical advantage of his race. He saw that if men kept honest, local records, history, would be more correct, and therefore he narrated the events of his own town. He saw errors in Church discipline, which caused misery and strife, and he proclaimed honestly all that he saw. Having finally acquired much knowledge, and eliminated what he thought to be some valuable practical ideas, from the spreading of which over the country good would follow, it became his duty to spread them if he could, and that was his first motive for the publication of his book.

He did not profess indifference to either praise or profit. His mind was too healthy to be ashamed of any just and natural desire. He would be very glad to be entrusted with any profitable commission, and without hint-dropping

or circumlocution, whenever it occurred to him that he could be useful to somebody with profit to himself, he wrote what he thought in his own honest, unaffected manner.

For inscribing his first letter to the Marshal de Montmorenci, the eldest son of his great patron, Palissy may have had several motives. The son of the constable represented less perfectly than his father the faction of the triumvirate; he had endeavoured to dissuade the old man from his coalition with the Guises; and differing not very much in age from Palissy, at the same time that he was liberal in temper, Palissy felt for him, as perhaps he felt for Palissy if they had met often at Ecouen, beyond the relation of patron and client, a good deal of human liking. Then again, by addressing his first letter to the younger Montmorenci, Palissy could address the queen-mother afterwards with greater delicacy. He shrank altogether from the fiction of a grateful letter to the king, nor did he wish, by writing to the queen-mother on his first page, coarsely to thrust himself before the notice of the throne. To have placed his epistle to the queen after that which he addressed to the elder Montmorenci, considering the great power and influence of the old constable, would have been a precedent that might have suggested to the queen herself distasteful reflections. The less prominent son of the marshal was, therefore, chosen to stand in the first place among his dedicatory letters; after that, he paid his humble duty to the queen and constable. These considerations would be strengthened by the dictates of self-

interest, which would suggest the marshal as a very likely man to trust the workman whom his father trusted. There was some hope that he might give Bernard commission to execute that design for a delectable garden which the book contained, and to which the straightforward Potter solicited his practical attention. Again, the heir of the old constable and of the estate at Ecouen was a man whose friendship it became the interests of Palissy to cultivate, if he could do so in any honourable way. I have suggested a variety of possible motives, and more could be adduced if it were worth while, for few men act in any way upon a single motive only. Therefore, when men are asked what was their reason for an act, the question ought almost invariably to be, what were their reasons? and when for their reply they give a single motive, they often misrepresent even themselves, because they are unable to reproduce in a few words, if they are able to recal, a complex process of the mind.

Palissy then addressed the first dedication of his book to Monseigneur the Marshal de Montmorenci, Knight of the Order of the King, Captain of Fifty Lances, Governor of Paris and the Isle of France. Commencing with the sense of religious responsibility, he gravely expresses his feeling that God has commanded men to eat bread by the labour of their bodies, and that they should multiply the talents which He had committed to them, in accordance with His testament.

“Which having considered, I have not been willing,”

he says, “ to hide in the ground those talents which it has pleased Him to allot to me ; therefore, to cause them to bring profit and increase, according to His commandment, I have been desirous to produce them before every one, and especially before your lordship, knowing well that by you they would not be despised, though they have, indeed, proceeded out of a poor treasury, being held by a person very abject, and of low condition ; this notwithstanding, since it has pleased my lord the constable, your father, to do me the honour to employ me in his service, for the building of an admirable rustic grotto of new invention, I have not feared to address to you a portion of the talents which I have received from Him in whom all gifts abound.”

These talents he proceeds to explain are, first, certain “ good secrets” concerning agriculture, which he publishes, desiring “ to excite good-feeling in all men towards the earth, and to make them lovers of virtue and just toil.” He also desires, in connexion with this subject, to point out certain errors in farming, the amendment of which would “ be the means of enabling men to gather more than four million bushels of grain yearly in France above what is customary, provided that they be content to follow my advice, which I hope that they who are subject to you will do when they have received the information given in this book.”

Palissy then states that his book contains also original plans of a garden and of a fortified town. He says, “ I have

not put a picture of the said garden in this book, because there are many who are not worthy to see it, and especially the enemies of virtue and good wit ; and also my indigence, and the occupations of my art, have not permitted." Palissy had often, probably, described in conversation some parts of his great garden idea, and been pronounced in that, as in many other of his schemes, a visionary. He proceeds to rebut this notion; and as to the picture, he adds, " Whenever it may please you to employ me in this affair, I will not fail to provide you quickly with a picture, and even will put the plan into execution, if you should feel inclined to have this done."

He then foresees objection that may probably arise against the reception of a scheme of fortification from a Potter, who has had no experience in batteries or the assault of towns. " To this I reply, that the work which I have begun for my lord the constable gives witness enough of the gift which God has given me, to close their mouths ; for if they inquire into it, they will find that such a work has not before been seen. *Item.*—Having made more ample inquiry, they will find that no man has taught me to understand the details of the above-named work. If, then, it has pleased God to distribute to me of his gifts as an artist in earth, who will deny that He has also sufficient power to communicate to me a portion of understanding in the military art, which is acquired rather by nature, or natural sense, than by practice?" (There was little science in it in the days of Palissy.) " The for-

tification of a town chiefly consists in tracings and lines, according to geometry ; and it is well known that, thanks to God, I am not ignorant of these things. I have assumed the boldness to propose to you these arrangements, in order to obviate the detraction of some who might persuade you by saying that the thing is impossible." Bernard is quite convinced that his fortress is impregnable, and is ready to stake his life upon the truth of his invention. It may be observed in advance, that the impregnability of Bernard's fortress by any means available against it in those days is perfectly demonstrable, but the adoption of it, as we shall hereafter see, would have been open to fatal objection upon other grounds. The conclusion of the letter to the marshal well displays the elegant and nervous style which Palissy attained by speaking the clear thoughts of a man of genius in the words which they themselves suggested, without any strain for artificial polish. "If these things are not written with so much dexterity as is due to your greatness, you will be pleased to pardon me; and this it is my hope that you will do, seeing that I am not Greek, nor Hebrew, nor poet, nor rhetorician, but a simple artisan, poorly enough trained in letters: this notwithstanding, for such reasons, the thing in itself has not less value than if it had been uttered by a man more eloquent. I had rather speak truth in my rustic tongue, than lie in rhetoric. Therefore, my lord, I hope that you will receive this small work with as ready a will as I have a desire that it shall give you pleasure."

The clearness with which thoughts presented themselves to the lively apprehension of the Potter, led him at all times to speak them in words accurately fitted to his meaning. For this reason the French written by Palissy three centuries ago has very little of an antiquated cast; his language, like his mind, appears to have marched forward out of his own time.

The next epistle, addressed by the liberated Potter "To my very dear and honoured lady, Madame, the Queen-Mother," relates how, when he had been delivered from the hands of his cruel enemies by her "means and favour, at the request of my lord the constable," he reflected that it had been ungrateful in men to imprison him for admonishing them to their own advantage. And then, considering whether there might not be in himself also some spirit of ingratitude, he remembered the favour of the queen, "which seeing, I found that it would be in me a great ingratitude if I were not regardful of such boon. Nevertheless, my indigence has not permitted that I should transport myself into your own presence to thank you for such boon, which is the smallest recompense that I could make." It is not at all probable that in the most prosperous time of his life Palissy was rich. The art of pottery, especially to one who does not labour by the light of past experience, is very costly. The spoiling of elaborate work in the furnace, loss of much material and time and labour, is a frequent accident; and Palissy, who always laboured forward into unknown regions for increase

of skill, was of course always paying for his knowledge by mishaps attendant on his spirit of adventure. If he had hoarded any little store, it would have been consumed during his imprisonment, and the last coins of it were probably expended in the repair of damage that had been done to his workshop by his enemies. The expense of publishing his book, and travelling upon that business between Saintes and Rochelle, would further burden him; he might well, therefore, plead indigence as his apology for not incurring the expense of an appearance at the court. He offered to the queen, however, the secrets contained in his book.

“My littleness,” he says, not without so much just pride as elevates him far above the host of sycophants—“my littleness has not dared to take the liberty of dedicating my work to the king, knowing well that some would say that I had done this for the sake of being recompensed: if it had been so, it would have been no new thing. Madame, there never was a time when good inventions received their reward from kings; nevertheless, I have hope that this work will be more useful to the king than to any other person. At the same time, because of my littleness, I have dedicated it to Monseigneur de Montmorenci, good and faithful servant of the king, which I hope he has found means to make very well understood by his sovereign prince and king.” Having put in this good word for the marshal, Palissy propounds an idea for himself. There was no affectation of independence in

Bernard's expression of a feeling which, in our own country, at any rate, artists share with him to the present day: "Madame, there never was a time when good inventions received their reward from kings." That was a plain truth, but Palissy does not affect to disdain patronage. It occurs to him that he should be glad to have a little work in one of the queen's gardens; that being a natural and honest object of desire, Bernard has no false delicacy in expressing it. "There are things written in this book," he tells the queen, "which will be able to assist much in the building of your garden of Chenonceaux; and if it shall please you to command me to do you service therein, I shall not fail to employ myself about it. And if you should feel inclination to do this, I will do things that no other man has done up to the present day." The works from his furnace being unique in their character, of course that promise would have been extremely easy of fulfilment.

In his epistle to his great patron, the constable, Palissy first excuses himself for not having rendered thanks at the time when he was drawn "out of the hands of his mortal and capital enemies. You know," he says, "that the occupation of my time upon your work, together with my indigence, have not permitted it. I doubt whether you would have found it good, if I had quitted your work to bring you large thanks." Palissy then narrates to the constable briefly the cause and manner of his arrest. He accounts for his continuance at Saintes during the heat

of the contention, and after his enemies possessed the town in triumph, by saying, "I should have taken good heed not to fall into their sanguinary hands, had it not been that I hoped they would have regard for your work, and for their duty to Monseigneur the Duke de Montpensier, who gave me a safeguard, forbidding them to take cognizance of, or undertake anything against me or against my house; well knowing that no man could bring your work to completion but myself." After telling the tale briefly, he adds: "I have written to you all these things, in order that you might not be of opinion that I had been imprisoned as a thief or murderer."

Addressing in the last place the reader, he prays to him in a friendly manner, "Be not so indolent or rash as to content yourself with the reading of the beginning or a part thereof; but, in order to carry away from it some fruit, take pains to read the whole, without having regard to the littleness and abject condition of the author, nor yet to his language, rustic and ill-adorned, assuring yourself that you will find nothing in this writing which is not of profit to you, more or less." Applying presently his main idea, and praying his reader "to call to mind a passage which is in the Holy Scripture, there where St. Paul says, that each one according as he has received gifts should distribute thereof to others," he urges upon him the duty of instructing his unlettered labourers, "that they may be made carefully to study in natural philosophy, according to my counsel." The instruction of

agricultural labourers in natural philosophy is an idea that sounds speculative enough even in the present day. But Palissy was right ; his notion was clear-sighted and practical. If farmers had gifts of knowledge to distribute to their servants, they could raise them very quickly in the scale of intellect, and there is no knowledge so easy of acquisition and so interesting to unlettered men as plain and useful information on the meaning of the processes of nature. If labourers were taught to know the reason that is in their daily labour, and the ways of nature which it is their occupation to assist, they would not only work more happily and blunder less, but would contribute in some independent ways to the advance of agriculture.

“ Especially,” says Bernard, “ let that secret and precept which concerns manure-heaps, that I have put into this book, be divulged and made manifest to them; and that also,” he adds, allowing for the slow perceptions of the ignorant, “ so long as may be needed, till they hold it in as high esteem as the thing merits. Since so it is, that no man could estimate how great the profit in France would be, if on this subject they would accept my counsel.” Palissy then mentions “ a kind of earth called marl,” which he had seen used as manure “ in certain parts of Gascony, and some other regions of France.” This subject he promises to investigate and treat of in a third book, “ if I see that my writings are not despised, and that they are put in execution.”

After again defending, as quite practicable, his ideas for

the garden and the fortress, Bernard's epistle to the reader thus continues: "I have also found so much ingratitude in many persons that this has caused me to restrain myself from too great liberality; at the same time, the desire I have toward the public good will incite me some day to take an opportunity of making the picture of the said garden, according to the tenour and design written in this book. But I would like to beg of the nobility of France, that after I shall have occupied my time to do them service, it will please them not to return me evil for good, as the Roman ecclesiastics of this town have done, who have desired to get me hung, for having sought on their behalf the greatest good that could accrue to them, which is, for having wished to incite them to feed their flocks, following God's commandment. And no man can say that ever I have done them any wrong; but because I urged upon them their perdition, according to the eighteenth of the Apocalypse, seeking thus to amend them, and because many times also, I had shown them a text written in the Prophet Jeremiah, where he says, 'Woe unto you, pastors, who drink the milk and wear the wool, and leave my sheep scattered upon the mountains! I will demand them again of your hands;' they, seeing such a thing, instead of amending, hardened themselves, and banded themselves together against the light." The simple, earnest Potter, who seems to have regarded it as a plain duty to expostulate with the well-dined ecclesiastics of his town, to urge upon them their perdition, and awaken them, if pos-

sible, with the solemn note of texts that pronounce woe against unfaithful pastors, speaks half in real, half in ironical surprise at the return he had for all his good intentions. "I never should have thought," he tells his reader, "that for that cause they would have wished to take occasion to put me to death. God is my witness, that for the evil they have done to me they had no other occasion than the above named."

Finally, Bernard commends to all his readers agriculture as "a just toil, and worthy to be prized and honoured;" and again, urges his desire "that the simple may be instructed by the wise, in order that we may none of us be rebuked at the last day for having hidden talents in the earth." With this last thought—a thought always predominant in his own mind—couched now in the most solemn form of adjuration, Palissy ends as he began his series of prefatory letters.

CHAPTER II

CONTENTS OF THE BOOK.

THE treatises included in the second book published by Bernard Palissy, the first that we are able to receive with confidence as his, having been published in the year 1563, when Bernard was fifty-four years old, contain the mature expression of his character. The maturity of his knowledge is expressed in later writings; in this second book we find him on the road to subsequent attainments, and it is in treating of his last work that we shall find the most fit place to consider the claims of Palissy to rank among the men who have won spurs upon the field of science.

The second book is chiefly interesting for the complete and lively way in which it makes a revelation of the entire mind of the writer. It is essentially original, and full of the charm conveyed by brilliant genius acting on its own impulses, in independence of all school-men, perfectly regardless of the prepossessions and the prejudices of the world. It presents the picture of a free mind and nimble

fancy working and playing on their own behalf three centuries ago, and pushing their own wholesome roots among the corruption of the soil in which they lived. Bernard, wandering among the woods with exquisite appreciation of all beauties of Nature,—searching among her secrets,—at one time applies his study to the ways of workers in the fields, and demonstrates how they may increase their substance by avoiding certain errors; at another time he contrasts the peace of woods and meadows with the jar of human strife, and dwells with playful satire on the follies, or with stern denunciation on the crimes of his own time. The intimate union in his writings between a love of nature and a spirit of unaffected piety; the cheerfulness of Bernard's piety as a pervading feature of his disposition, not incompatible in his case with the rigid sense of virtue and of discipline proper to a Huguenot who worshipped as he would in spite of the severest penalties, are characters that lie upon the surface. When he tells the story of the Reformed Church of Saintes, or comments elsewhere, as he always comments, freely on the great religious questions of the day, it should be observed, that however bluntly and sternly he may upbraid the ecclesiastics, he nowhere quarrels with them about dogmas of theology. He does not seem to care much whether they be good theologians or not, but he desires that they shall be good Christians only. He would have them to preach and take care for the poor; but he complains that they grow fat upon the substance of the people, and neglect

the fulfilment of their charge. He complains of avarice that cuts the forests down, of pride, contentiousness, and acts and passions that disgrace the Church of Christ. There can be little doubt that he adhered to the whole body of Calvinistic doctrine, but he does not trouble us with any syllable from which we can infer that he possessed a theologic passport properly filled up by Calvin, Beza, or any other ambassador of Heaven, for insuring his safe transit over the confines of this world. From the works of Palissy we only learn that he was thoroughly and reverently acquainted with the Bible, and that he laboured to apply its precepts practically to the regulation of his daily life. His reverence of Nature, and that inexpressible perception of the goodness equalling the wisdom of the Creator which is the best lesson that Nature teaches to her simple-hearted scholars, most effectually let the sunshine into Palissy's religion.

Palissy wrote without a thought of polished sentences; he never used his pen unless he had in his mind some matter worth inditing; and against his detractors he was not afraid to call to witness "the most cultivated minds of France—philosophers, and men who live well, full of virtue and good manners, who, I know, will hold my work in their esteem, though it be written in a language rough and ill-polished; and if they meet with a fault, they will know very well how to allow for the condition of the author."

The polish wanting in the works of Palissy is chiefly

that which in the present day would have been furnished to him by his printer. He poured out his thoughts more freely than his full stops. I have left untouched Palissy's punctuation, in such extracts from his writings as have been included in the present volumes; and for my own part, I like his works the better for the quaint vivacity with which the words follow each other, while the busy Potter quite forgets to measure the thoughts as they come out of his brain, against the wind that is demanded for their utterance.

Vivacity of mind prompted Bernard to plan all his writings in the form of dialogues, in which he represents as speakers Theory and Practice, or Experiment. His vivacity, his clear and philosophic spirit of inquiry, his strength of purpose, and the purity and grace communicated to his mind by long communion with nature and true wholesome piety, utter themselves in the works of Palissy, and reveal the character of the writer, many of his thoughts, and many of the circumstances of his life, without a trace of egotism. He hides, indeed, no sense of honourable pride, he affects no false modesty, but he causes us to delight in him and love him by the absence of all effort to acquire our admiration. His narrative of his struggles and sufferings while he was labouring in vain for the white enamel, is one of the best pieces, perhaps the best piece of naïve writing to be found in the whole range of modern literature. The fortitude which Palissy displayed during those efforts, is even less to be admired than the simplicity with which they are related.

This narrative of struggle is included, not in the second, but in the last of Bernard's books. In the Appendix to these volumes it is prefixed to a selection from the works of Palissy, designed to illustrate his life and character, in which selection, except some extracts from a short succeeding paper on "The Potter's Clay," the specimens have all been taken from the "Trustworthy Receipt," the book published in 1563, with which it is our present business to become acquainted. Since, however, portions of the book necessary to this story have been quoted in preceding chapters, and many portions so quoted will be read again, with the original context, where they occur in the Appendix, it will be sufficient now to give an outline of it; and whenever any extended details may be given in the words of Palissy, they will be such as are not elsewhere to be found included in these volumes.

The first and principal treatise in the book dedicated by Palissy to the constable and queen-regent, is upon agriculture. Palissy begins by the proposition of his garden, which he says had been suggested to him by the voice of certain virgins, who were seated under certain groves, and sang the Hundred-and-Fourth Psalm. Beginning at this point, the dialogue travels lightly over the troubles of the time, and the necessity of a place of refuge, until it dwells upon the defective cultivation of the arts, and chiefly agriculture. Bernard, who is no special believer in the wisdom of his ancestors, knows "that all folly, sanctioned by custom, is accepted for a law and virtue," but he "by no means desires to be an imitator of his predecessors,

except in as far as they have done well, according to the ordinances of God." In agriculture he says what is true, unhappily, to this day in many parts of France, of men who are born, as Palissy was born, in a peasant's station:—"Each labours on the soil without any philosophy, and all jog always at the accustomed trot, following the footsteps of their predecessors, without considering the nature or the prime causes of agriculture." Being cried out upon for the belief that labourers would be the better for some philosophy, Palissy emphatically reiterates his position, "dares well affirm, too, that if the earth were cultivated as it ought to be, one day would give the fruit which two give in the way that it is now cultivated daily."

To illustrate and enliven his case, he relates an ancient fable. His opponent then quotes Scripture to him against vain philosophies, and desires to know what kind of philosophy can serve a husbandman. Bernard disposes of the Scripture text, and then proceeds to give some practical explanation of the need of natural philosophy in farming, the study of soils, and waters, and such things. He passes on to explain the philosophy of manure, and points out, in language that would not discredit any modern chemist, the reason why all farmers in France wasted their own goods when they left their manure-heaps at the mercy of the rains. He talks philosophically about salts, preaching an agricultural doctrine common enough now, but at that time exclusively the product of his own reflection and research. His querist declares that for a hundred years' preaching he would not believe that

there is salt in muck-heaps; Palissy therefore proceeds to convince him, by a detail of experiments, that salt is contained in plants, not common salt, but salts of divers kinds, and that the manuring of a soil consists in restoring salts that have been removed from it by vegetation. It is by attention to these facts, and ceasing from the universal habit of allowing the manure to be spoilt by exposure, that Palissy proposed to all the men of France to multiply their treasures. To increase the productiveness of the soil, and to cheapen, accordingly, its produce, would have been to increase the wealth of every Frenchman. It is to this doctrine that Palissy refers in the first part of the title of his book.

Since he advises farmers to keep their manure from spoiling, he thinks it proper also to assist them by suggesting the plan of a tank for its reception, accompanied by such minute practical details, founded on a very sound philosophy, as will preserve them from all possibilities of error.

Having explained with great clearness this important doctrine, Palissy next proceeds to comment on the damage done by the labourers to trees through carelessness in wood-cutting. This "murder upon trees" he combats warmly, and teaches the necessity of cutting living plants in such a manner as to leave on them no bruise or fracture. The entire essay will be found in the Appendix,* with the omission of its two remaining topics. One of

* Where it is translated under the title of "How to Grow Rich in Farming."

these is a brief discussion of the cause of rottenness within the heart of trees, and certain appearances within the texture of wood, which are ascribed to the percolation of water that has been retained in hollows formed within the branches. The other topic is a more detailed discussion of the fit season for wood-cutting. Palissy properly points out that both the trees are less injured and the wood is better when it is lopped during the winter. He also very accurately describes the exhaustion of the resources of a plant by the act of flowering and bearing fruit; but at a time when the world knew nothing whatever about vegetable physiology, and there was need of a microscope for the perception of its truths, the reasoning of Palissy upon the facts he saw, though always sensible, could not, of course, always be correct. While distinctly and correctly teaching that the substance of a tree is drawn by its roots out of the soil, and consists largely of salts, Palissy errs in ascribing undue importance to the imbibition of moisture from the south and west winds as opposed to the dry cold winds from the north.

The second treatise in Bernard's book is devoted to the statement of certain opinions to which he had attained on natural history. In this essay he begins by recurring to his proposition that in all kinds of trees, herbs, and plants, there was salt; he adds now, that there are salts in stones and metals, which cause them to retain the solid form. The shape of mountains is due to the shape of the rocks beneath, which, being decomposed by air and rain, return

into the state of earth, and being in the state of earth, are never idle, but will produce thorns or thistles if no grain be sown. The valleys, being washed by rains and made too moist, lose a portion of their salts, which being more concentrated on the high lands, there produce stronger trees and fruits of better savour. For the savour of a fruit, he says, depends upon the salts within it, and that is a doctrine fully in accordance with the science of the present day.

Palissy then directs his disputant to take note of the crumbling of old walls, but is met promptly by a violent antagonism to his theory of the constant formation of new rocks, and disintegration of the surface of the rocks already formed. He is told that in the beginning God made heaven and earth; he made also the stones, and none therefore have since been made. This objection was no idle one three centuries ago. To the eyes of the orthodox these doctrines of Palissy concerning stones would appear utterly abominable and profane. The reply of Palissy to the dogmatist is very beautiful: "I know well that it is written in the Book of Genesis that God created all things in six days, and that he rested on the seventh; but for all that, God did not create these things to leave them idle; therefore each performs its duty according to the commandment it received from God. The stars and planets are not idle; the sea wanders from one place to another, and labours to bring forth profitable things; the earth likewise is never idle; that which decays naturally in her

she renews, she forms over again—if not in one shape, she will reproduce it in another. And that is why you have to take manure-heaps to the earth, in order that the earth may receive again the substance which she gave.” So clear and extensive was the view of nature to which Pallissy had risen since he was a child at play among the glass-workers.

He then speaks of the changes that take place beneath the surface of the earth—the formation of coal, of minerals, the kindling under the earth of fire “by some compression.” He speaks of earthquakes, of the rising and sinking of mountains, as evidences of a constant change. If stones were not continually formed, he says, “it would be difficult to find at this day a horseload of them in a whole kingdom ;” and he points out the daily waste of stone by man, by frost, and other causes.

Being required to give some further proof that stones are being at all times formed as well as wasted, he relates how he had been surprised when he for the first time found shells encrusted in a mass of stone, themselves being converted into stone. This, after much pondering, he then accounted for by the opinion that they were shells of fish that had been eaten by some former dwellers on the spot, and that the shells having decayed, “the substance and property of the salt of the said shells made attraction of the adjacent earth, and reduced it into stone with itself ; however, because the said shells retained more salt in themselves than they gave to the earth, they congealed with

a congelation much harder." Afterwards, he had been puzzled by certain stones embedded in rock, "which were made in the fashion of a ram's horn"—ammonites, in fact—until "it happened one day that one named Pierre Guoy, citizen and sheriff of this town of Xaintes, found in his farm one of the said stones which was half open, and had certain dentations which fitted admirably one into the other; and because the said Guoy knew that I was curious in such things, he made me a present of the said stone, whereat I was greatly rejoiced; and from that time I understood that the said stone had formerly been a shell of a fish, which fish we see no more." Then he describes how he was once seeking shells upon the shore of Olleron, probably as models to be used in ornamental pottery, and had engaged a score of women and children to aid him in searching on the rocks; there were brought to him a number of fishes, which we know, from his minute description, not exactly under the class of Fishes, but of Radiata, as sea-urchins. "Now, some time afterwards," he says, "there was an advocate, a famous man, and lover of letters and arts, who, in disputing of some art, showed me two shells quite similar in form to the said urchinshells, but which were quite massive; and the said advocate, named Babaud, maintained that the said stones had been carved by the hand of some workman, and was quite astonished when I maintained against him that the said stones were natural," and Babaud found it still more strange when Palissy proceeded to explain how such stones had been moulded into shells.

Palissy having in this way given evidence that all stones were not created in the beginning as they now exist, proceeds to discuss the veins of rocks and their cleavage. He ascribes the conversion of earth into stratified stone upon a large scale to pressure and the percolation of water, which becomes as it descends saturated more and more with salts. He ascribes faults in the strata to the check given to the percolation, in some parts, by the intervention of a piece of viscous earth. He accounts for the existence of white stone in black earth by the bleaching power which some salts possess. In this part of his philosophy Palissy falls behind the modern position of geology; but although incorrect, he is decidedly in advance of the philosophy of his own time, which in such matters rested satisfied with pious absence of inquiry.

The passage of water through rocks brings Palissy to the subject of springs, of which he proceeds next to detail the theory with perfect accuracy—a theory of which he stood alone in France as the discoverer.

Returning then to the subject of salts and flints, he proceeds to discuss the subject of crystallisation, and to relate how, in a cavern, a Grand-Vicar of Tours and Abbot of Turpenay had shown him flints formed about straw by congelation. He believes all flints to be formed in this way by deposit from water charged with the flinty salt. He has found flints with holes pierced through them, and by these has been confirmed in his theory, be-

cause they showed that the water had continued to run through while the flint was forming.

After further illustrating his theory of the deposit of stone from water, Palissy proceeds to speak of petrified wood, and relates how a piece of such wood, obtained at court by La Mothe Fenelon, was given to him as the said Fenelon was passing through Saintes;—he, like most other people who became acquainted with the philosophic Potter, “knowing,” says Bernard, “in very good truth that I was very curious about such things.” Palissy proceeds to account by his theory for the petrification of this wood in the swamp from which it had been taken, and adds, “you see, thus, how Nature no sooner suffers destruction by one principle, than she at once resumes work with another; which is that which I have told you throughout, that the earth and other elements are never idle.”

Bernard then charges against his adversary another argument in further maintenance of his opinion that stones are undergoing constant reproduction as well as constant waste. Stones, he says, grow in human bodies, and are found to be produced in animals. In proof of his assertion that the moisture of the air is an active agent in producing the decay of stone, he speaks of the decay which takes place on the outside of the glass vessels in the churches of Poitou and Brittany. Glass was, at that time, much less perfectly compounded than it is in our own day; for long after the period of Palissy, we read, as a common

thing, of the action of an acid wine upon the wine-bottles. This decomposition Palissy properly ascribed to action on the salt contained in the glass—the alkali. “The glass-makers say that the moon has done this, but they will pardon me.”

Palissy then, by a story of a potter, further illustrates the change of form which certain substances may undergo when salts are added to them. He then proceeds to discuss the formation of precious stones, and accounts for their existence still by the same theory of certain salts deposited from water, which had become charged with them in percolating through the earth. From a slight mention of metals he passes on to the absurd use of gold as a potable metal in medicine by the doctors. At the same time, he pauses to pay a grateful tribute to some members of the faculty, in words which rather militate against the theory that Palissy was author of the Dissertation that has been ascribed to him as his first work. “I have not spoken ill to you,” he says, “of the doctors; I should be very sorry to do so, for there are some of them in this town to whom I am greatly attached, and particularly to M. l'Amoureux, who has given me assistance with his worldly goods and with the labour of his art.”

With a series of arguments against the theories employed to defend the use of potable gold, the treatise upon Natural History concludes. It represents to us the point in advance of his own age up to which Palissy had by this time attained in his researches into nature.

CHAPTER III.

FURTHER CONTENTS OF THE BOOK—THE GARDEN AND
THE FORTRESS.

THE third of the four treatises included in the second work of Bernard Palissy displays his plan for a delectable garden. Still using his accustomed form of dialogue, he states that he should like to form a garden after his own heart, in some place where there are hills. He desires a hilly place, in order that he may be able to lead springs down from the high ground, to flow in a rivulet about his garden in the valley. There are in France, he says, more than four thousand noble houses, situated near spots convenient for his purpose; such spots being especially abundant along the course of the Loire, the Gironde, the Garonne, the Lot, the Tar, and almost all the other rivers.

“*Question.* Tell me, then, how you propose to ornament your garden, after you shall have bought the site?

“*Answer.* In the first place, I will mark the quadrature

of my garden of such length and breadth as may seem requisite, and I will make the said quadrature in some plain that is bounded by mountains, highlands, or rocks, on the sides of the north wind and the west wind, in order that the said mountains, highlands, and rocks, may serve me in the things of which I presently shall tell you. I will take care also to fix the situation of my garden below some spring of water issuing from the said rocks, and coming from a high place ; and that done, I will make my said quadrature : but wherever it may be, I will build my garden in a spot where it may have a meadow below it, so that one may pass sometimes from the said garden into the meadow ; and this for reasons which shall be hereafter adduced. And having thus made good the situation of the garden, I will proceed then to divide it into four equal parts. There shall be a great walk formed like a cross in the said garden, and at the four ends of the said cross there shall be at each end a cabinet, and in the centre of the garden and the cross there shall be an amphitheatre, such as I will presently describe. At the four corners of the said garden there shall be in each a cabinet, which are in number eight cabinets and an amphitheatre that will be erected in the garden ; but you must understand that all the eight cabinets will be differently garnished, and of such contrivance as hath never yet been seen or talked of."

The stream of water is to be conducted in such manner about the garden that it shall pass through each of the eight cabinets, and being retained in each in various pro-

portions, escape from it again through more than a hundred little jets. Having explained this matter, Palissy proceeds to describe the plan of each of the proposed cabinets in detail. He begins with the cabinets at the four corners. That at the corner to the north adjoins the rock, and is to be built of bricks, crusted externally with unhewn rock, and so contrived that persons descending from above may walk upon its roof without knowing that they stand upon a building. On the roof are to be planted fruits, and such herbs as yield seeds grateful to song-birds, in order that they may be enticed to make that cabinet a place of their resort.

The water carried between the rockwork and the wall, is to issue again from the clefts between the rockwork as a natural spring. The cabinet inside is to be smooth, with windows looking southward, and seats built into the wall. Between each two seats there is to be a column on a pedestal, and having capitals above, with an architrave, frieze, and cornice running round the cabinet. Over the whole surface of the interior when it is built there are to be laid in artful device coloured enamels, and then a fire being made within the cabinet, the enamels are to be burnt; so that the whole interior of this cabinet will appear to be of one piece polished as a mirror, and beautifully coloured; around the frieze there is to run, in antique letters, the inscription—"God hath pleasure only in that man with whom Wisdom dwelleth."

The second cabinet, in the next corner on the northern

side, facing the south, is to be built also externally to resemble the rock against which it is placed, and fruits and herbs are to be planted over it, and water-springs to issue from it. It is to be built of bricks, but in the interior between the seats there are to be not columns, but grotesque figures fashioned out of brick, supporting architrave, and frieze, and cornice. And the grotesque figures are to be quaintly painted in enamel, and the whole interior of the cabinet is to be enamelled, and around the frieze there is to run, in antique letters, this inscription—"The fear of the Lord is the beginning of wisdom."

The third cabinet, on one of the southern corners adjacent to the meadow, is to resemble externally the other two, but its interior is to be formed of bricks disposed irregularly, as though it were a cavern rudely hewn out of the rock ; and there are to be cavities which serve as seats, and a rude disposition of the surface is to suggest a frieze, carelessly hewn; the whole is to be covered with a white enamel, and afterwards lightly and delicately painted, and around the frieze there is to run, in antique letters, this inscription—"Wisdom will not make her dwelling in the sinful body, nor in the soul that is disposed to evil."

The fourth cabinet, in the south-western angle, adjoining the mountain on the west, covered with earth and plants, and resembling natural rock from which water flows, is in its interior to be still ruder than the last. The cavern is to present in its shape no idea of human

labour. It is to be tortuous, and to have such projections from its roof as that it shall appear in some parts ready to fall. Its windows, like the windows of the other three cabinets, are to be irregular in shape. Its interior is to be enamelled with veins of chalcedony and jasper, and strange ideas and figures growing and vanishing from floor to roof. And though there will be no frieze, yet over some part of the cavern there is to run this inscription—"Without wisdom it is not possible to please God."

Palissy next details his plan for the four cabinets which are to be at each end of the walks traversing the middle of the garden in its length and breadth. They are all to be formed of foliage, but under the branches which shade each there is to be a rock. "The first rock, then," says Palissy, "which will be in the cabinet on the north, shall be made of earth modelled, baked, and enamelled after the manner of a tortuous and rugged rock, of many strange colours, such as I am now making for the grotto of my lord the constable, not exactly according to the same design, because this work is not of the same intention.

"Note then, that at the base and foot of the rock there will be a natural trench or receptacle for water, which will be equal in length to the said rock. For this cause I will make projections on my rock, along the said trench, upon which projection I will place several frogs, tortoises, crabs, lobsters, and a great number of all kinds of shells, the better to imitate the rock. Also, there will be several branches of coral, whereof the roots will be at the foot

of the rock, in order that the said corals may have the appearance of having grown within the said trench.

“*Item*, a little higher on the said rock, there will be several clefts and concavities, on which there will be some serpents, aspicks, and vipers, which will be couched and twisted on the said projections, and within the clefts: and all the rest of the height of the rock will be sloping, tortuous, and lumpy, having modelled over it a number of kinds of herbs and mosses that commonly grow about rocks and moist places. And above the said mosses and herbs there will be a great number of serpents, aspicks, vipers, and lizards, which will appear to run over the said rock, some upwards, some to one side, some downwards, disposed in many pleasant gestures and agreeable contortions; and all the said animals shall be modelled and enamelled so like to nature, that the natural lizards and serpents shall come often to them with wonder, as you see that there is a dog in my workshop, that many other dogs have growled at seeing, thinking that it was natural. And from the said rock will distil a great number of jets of water, which shall fall into the trench which will be in the said cabinet, in which trench there will be a great number of natural fishes, and of frogs, and tortoises. And because upon the bank adjoining the said trench there will be fishes and frogs, modelled according to my art of earth, they who shall go to see the said cabinet will think that the said fishes, tortoises, and frogs are natural, and that they have come out of the said trench, inasmuch

as in the said trench there will be some that are living. Also, in the said rock will be formed some kind of recess, to hold the glasses and cups of those who may feast within the cabinet: and in the same way there will be formed in the said rock certain bins and little receptacles for the cooling of the wine during a repast, which receptacles will always contain cold water; because when they shall be full according to the prescribed measure of their size, the superfluity of the water will flow over into the trench, and so the water will always be fresh within the said receptacle. Also, in the said cabinet there will be a table, like in material to the rock, which also will be supported on a rock; and the said table will be of an oval fashion, being enamelled, enriched, and coloured with divers colours of enamel, which will shine like a mirror. And they who shall be seated to banquet at the said table will be able to put fresh water to their wine without quitting the said cabinet; for they will take it from the jets of the fountains of the said rock."

Palissy then proceeds, to the great dismay of his interlocutor, to relate the way in which he proposes to arrange the trees that are to form the chamber of this cabinet. It is to be an architectural plan altogether. Young elms, planted at even distances, are to be trained upward and lopped until their trunks have grown to a sufficient height to form the columns of a little temple. They are then to receive, above and below, circular wounds, which will cause the deposit of fresh wood and natural protu-

berances that shall correspond to the pedestals and capitals of ordinary columns. To the objection that the trunks of trees form clumsy columns, Palissy replies that columns imitate the trunks of trees, and that as a thing itself must always be superior to the imitation of it, so trunks of growing wood must be better architectural ornaments than pillars made of stone and mortar. The branches which shoot from the capitals of these living pillars are to be trained in the first instance, and elaborately worked into the pattern of an architrave, frieze, cornice, and all the accessories of a complete architectural design. The first young elm-branches having been thus fixed to grow into the exact pattern of a little temple, all the remaining shoots will be compelled to run together into a dense green roof, thoroughly impervious to rain. To ridicule, Palissy answered fairly, in his own time, that gardens abounded in dragons, cocks, and other absurdities, even soldiers on horseback, cut out of rosemary and other plants: if men admired such things, how much more thoroughly should they admire his living house, which, when established, would not need attention from the gardeners more frequently than about twice a year. Over the columns Palissy designs that there shall be formed first an architrave, and then a cornice. The frieze is to be left as a broad vacant space. Then, as the tree grows, some of the shoots which spring out of the architrave and cornice shall be chosen for training in the form of well-proportioned antique letters. "And," says Palissy, "in order that ingratitude may be contended against even by

insensible and vegetative things, there shall be in writing in the said frieze a text taken from the Book of Wisdom, where it is written: 'When the fools perish, then they shall call upon Wisdom, and she will mock when their fear cometh, because they would none of her counsel when she uttered her voice in the streets, when she cried in the chief places of concourse and in the openings of the gates, and uttered her words in the city.' That is what shall be written in the said frieze, in order that men who reject wisdom, discipline, and doctrine, may be condemned even by the testimony of souls vegetative and insensible." The three façades, then, will also supply three spaces upon which similar writings shall be placed.

There is a very wide difference between the cocks and men-at-arms carved out of shrubs, and Palissy's design for a green temple. I have not space for quoting the minute details of the plan, but enough has been described to show that here in gardening, as in all other things to which he turned his mind, Palissy had his own large thoughts, and that they corresponded to the boldness and the power of his genius.

The second green cabinet, which is to the east of the garden, is to be a little temple like the first, but the fountain within is to be walled with diaphanous white flints, forming prominences, and recesses which will serve as seats. The water of this fountain shall turn little wheels, and the revolving of the wheels shall cause the blowing of certain little bellows into flageolets placed in a brook at the foot of the rock, so that the flageolets being caused to sound

among the water, will emit gurgling notes that will imitate pretty closely the song of divers birds, and especially that of the nightingale. Upon the frieze of the cabinet over this fountain the device inscribed is to be "The children of wisdom are the church of the just," and in the pediment, on the three faces outside, there are to be written these several inscriptions: "Perverse thoughts part themselves from God"—"Fools despise wisdom and instruction"—"Happy is the man that findeth wisdom."

The third of the green cabinets, which will be under the western rock, is to be constructed like the others, in the form of a living temple, but the natural rock itself is to be used for the rock of the cabinet. Water-pipes, led through it, shall pour out what will appear to be natural fountains. Natural unpolished corals are to be attached here and there to its surface, and rare stones, such as chalcedony, jasper, porphyry, crystals, unpolished, are to be so neatly fitted here and there into its surface, that they shall appear to have been formed upon the spot by nature. In this cabinet there is to be a table formed of a rare stone, upon a pedestal of rock enchased with chalcedony and jasper. On the frieze of the cabinet the trees are to form this inscription: "The fruit of the righteous is a tree of life." And in the pediments of the three external faces shall be written three several inscriptions: "The way of life is above to the wise"—"The Lord giveth wisdom"—and "Wisdom giveth life to them that have it."

The last cabinet, which will be to the south, is to con-

tain a rock, hollowed and studded with rare stones from the sea-shore, both such as naturally would be found there, and others that have been among the ballast brought from foreign climes and discharged out of the holds of ships. With these stones are to be mixed figulines of lizards and serpents, with artificial turquoises; and within the cavern there shall be a spring, and on a rude frieze shall be inscribed in a mosaic formed with variously coloured stones: "Ho, every one that thirsteth, come ye to the waters, and ye that have no money." On the frieze of the living temple outside shall be written: "The fountain of wisdom is the word of God." And outside, on the three faces, the three inscriptions are to be: "The love of the Lord is wisdom"—"The fear of the Lord is the beginning of wisdom"—"The crown of wisdom is the fear of the Lord."*

Having thus detailed the plan of his eight cabinets or garden-houses, Palissy proceeds to describe the proposed arrangement of the rock or mountain-sides, which being situated to the north and west of the garden, have southern and eastern aspects, exposed greatly to the sun. The rocks are to be hollowed through their whole length into a series of chambers, serving sundry purposes: some to contain tender plants during the winter, with provision for the care of them; others to contain tools; others, seeds;

* Except that from Isaiah, these texts are all taken from Proverbs or Ecclesiastes, but it is not always possible to identify them in the English version.

others, a store of fruits or vegetables; others, for temporary dwellings to the gardeners, &c. Over these chambers there is to be hewn a terrace, reached by steps at either end, cut also from the rock.

The terrace is to be bordered by a balustrade, on which are to be damask roses, violets, and the most fragrant flowers, in enamelled pots; and on the other side, thickly overhung with hawthorns, and other shrubs and trees agreeable alike to men and birds, are to be the doors and windows, pleasantly designed, of an upper series of chambers in the rock. Of these upper chambers some are to be used for pleasure, others are to contain prunes, cherries, and such fruits as it is customary to dry in the sun, so that from them they may be brought out to dry on the unshaded portion of the terrace. The hawthorns and other trees which overhang these chambers are disposed to entice birds by their fruits, that they may make their dwelling in that pleasant, sunny place; in winter, seeds are to be thrown upon the terrace for their use, in order that this terrace may be known among the birds at all times as a good place of resort. The stranger who may walk upon this terrace, beside sweet scents, and sweet sounds of birds, and grateful shade, and the delightful prospect over the whole surface of the garden, is also to be pleasantly surprised, by now and then being induced politely to bow to some gentleman or lady, who leans over the balustrade and looks down pensively upon the

flowers, the said gentleman or lady proving afterwards to be nothing more than potter's clay—a rustic figuline. A few such figures Palissy proposed to place upon his terrace.

He proceeds next to describe the plan which he proposes for his central amphitheatre. The stream brought down from the mountains, having meandered through some part of the garden, is to be divided in the centre into two currents, which are to diverge and flow round an island exactly circular in form, then reuniting, to continue rippling in one current through the garden. About the margin of this island there are to be planted poplar trees at equal distances, the stems of which having been allowed to grow into erect columns of sufficient height to serve as pillars to the amphitheatre, are then to be inclined towards each other until they all meet at their points, and form a pyramid. At the summit of the pyramid there is to be fixed a vane, so made as to receive into its mouth whatever wind may blow from any quarter, and the wind so caught is to flow through a series of musical pipes, varying in magnitude, in such manner that there shall be at the summit of the central amphitheatre a kind of organ, with which the wind will always make *Æolian* music.

Within the amphitheatre—which is approached by little bridges—there is to be a round table, and there are to be easy seats, and places to contain vessels and vases for the service of the place. It is to be entered by four doors,

corresponding to the four broad walks which converge upon it. Outside, and at a distance of about five feet from the pyramid, there is to be a second circle, formed of young shrubs, which are to be connected together with brass wire; also from the summit of these shrubs to the summit of the columns, and between the columns, brass wires are to extend, enclosing everywhere spaces overhead, which are to contain a large variety of birds, both song-birds and birds of gay plumage.

“And by such means,” says Palissy, “they who shall banquet under the said pyramid will have the pleasure of the song of birds, of the croak of frogs which will be in the brook, of the murmuring of the water which will be flowing at the feet of the columns that will sustain the said pyramid, the freshness of the brook and of the trees that will surround it, the freshness of the soft wind that will be engendered by the movement of the leaves of the said poplars. There will also be the pleasure of the music that will be at the summit and points of the said pyramid, which music will play with the blowing of the wind, as I have already told you.”

Around the frieze of this amphitheatre is to be another inscription from the book of Proverbs—“They that have hated wisdom shall eat of the fruit of their own way.”

This amphitheatre completes the series of cabinets with which Palissy proposed to ornament his garden. He proceeds next to the consideration of some minor details. All trees and plants, for example, which it is proper to

defend from frost, are to be placed under the shelter of the mountains, which protect them from the north and the west winds; those being the two winds most hurtful to vegetation in Saintonge. In naming those two winds, Palissy expresses his appreciation of the fact that a wind may be hurtful in one region, and wholesome in another.

There are to be in the garden many little islands, planted with such flowers as delight in water. For the watering of the entire garden, or of any part of it, at will, Palissy suggests the use of a series of portable troughs, the bottoms of which are pierced with minute holes. The troughs, connected readily together, and raised upon props, are to carry the water from the fountains in a running stream, which may be checked and controlled in any portion of its course at the discretion of the gardener.

Those ingenious hydraulic engines, dear to the polite world two or three centuries ago, which suddenly discharged from some part of a garden-walk a jet of water on the unsuspecting stranger, Palissy declares that he will not admit into his paradise. He will have no spring-water guns. Instead of these dull jokes, he would place in his garden a few statues holding a vase of water in one hand, and an inscription in the other, so placed that when any one steps forward to examine the inscription, he may have the vase of water emptied on his head.

“*Item*,” says Palissy, who is unable to resist the temptation offered even in this odd walk of art for the exercise of ingenuity—“*item*. I would make also other

statues, which should have a certain target or ring suspended from one hand, in order that when the pages ran with lance in rest against the said target, so soon as they should hit the ring, the statue would strike them a great blow on the head with a large sponge saturated with water, in such sort that the said sponge would discharge a large quantity of water, because of the compression and the greatness of the blow."

Bounding the garden on the south there are to be meadows with hawthorn hedges, through which the artificial brook is made to flow, planted with trees upon the margin; under the hedges of this meadow there is to be made a pleasant path. Bounding the garden on the east are to be fields planted with different fruits, one covered with filberts, one with chestnuts, one formed into an apple orchard, and, in short, there are to be spaces devoted to each kind of profitable fruit. Among the hills on the north will be grown hemp, flax, and plants, suitable for making ligatures required in tying up the shrubs and flowers of the garden. Bounding the garden on the west will be the woods and rocks already mentioned.

The cost of a garden which should realise this bold and elaborate idea would certainly be great. The usual expenditure, however, according to the taste of that time in the formation of a garden, with its elaborate architectural works, was so excessive, that Palissy declares himself able to construct his paradise at a cost less than that which

had been incurred for a thousand other gardens built by great men in his country.

Hereupon the disputant suggests to Palissy, that money might be better spent in buying offices and seeking promotion in the world, than in the creation for oneself of a place of recreation among fruits, and birds, and flowers. Upon this hint, Bernard expostulates briefly against the avaricious ways of men, who have "greater reverence for their own bellies than for the divine majesty of God." He says, "I found nothing better than to fly the neighbourhood and the acquaintance of such people, and to withdraw myself to labour on the earth, which is a just thing before God, and a great recreation to those who will contemplate admiringly the wondrous works of Nature." His garden had been first suggested upon hearing the 104th Psalm sung in the fields by pious maidens, in the days when the Reformed religion flourished in Saintonge. He relates how, contemplating the sense of the said Psalm, he was seized with so great an affection for the building of his garden, that "since that time," he tells us, "I have done nothing but toil over again within myself the building of the same; and often, in sleeping, I have seemed to be about it, as it happened to me last week, that when I was asleep upon my bed, my garden seemed to be already made, and in the same form that I described to you, and I already began to eat its fruits and recreate myself therein; and it seemed to me that walking, in the morning, through the said garden, I came to consider the

marvellous deeds which the Sovereign has commanded Nature to perform." The pious naturalist then proceeds, under the figure of a dream, to walk about the garden of his fancy, and to call attention to the wisdom displayed in the works of creation. The accurate adoption of means to divers ends, he points out, in particular instances, with an acuteness that displays how thoroughly he had been gifted with the naturalist's faculty of observation, and how philosophic was the disposition of his mind.

From this topic he passes naturally to a consideration of the havoc done among the woods and fields by the avarice of benefice-holders, or the ignorance of farmers. The censure of the agricultural tools, "clumsy at their first invention, which are preserved ever in their clumsiness," leads to the question, Which tools would be requisite for the construction of the before-mentioned garden? Palissy having named them, feigns with a lively wit another dream, in which his tools were to be heard quarrelling for precedence, and being at last rebuked by the Astrolabe, who told them that they were all subject to the head of man, they spoke so contemptuously about man, "who has not a straight line in him," that Bernard, still in dream, desired for himself to subject a man's head to measurement. He then enters upon a series of humorous researches into human heads and bodies, by means of his tools and retorts, flasks and sand-baths, which "separate all the terrestrial parts from the exhalative matter." He examines priests, fops, lawyers, tradesmen, and fine ladies,

and relates the result in such a manner as to give a lively picture of the sins and follies prevalent in his own time. This leads him to speak of the great troubles he has seen occasioned by the "follies and rogueries of men." He tells how he had "thought within himself to make the design of some town or city of refuge in which to retire in time of wars and troubles, and evade the malice of many horrible and insensate plunderers, whom I have before now seen in the execution of their furious rage against a great multitude of families, without having regard to just or unjust cause, and even without any commission or commandment." "I pray to God," he says, "to give us His peace; but if you had seen the horrible excesses of men that I have seen during these troubles, you have not a hair in your head that would not have trembled at the fear of falling to the mercy of man's malice. And he who has not seen these things, could never think how great and horrible a persecution is."

Being then asked to tell how persecution arose in his own district, Palissy proceeds to relate the History of the Troubles of Saintonge, because it would be well that in each town there should be persons deputed to write faithfully the deeds there done, in order that by the abundance of such local records there might be provided fit materials for the study of the general historian.*

* Under the titles of *The Naturalist looking out on Evil Days*, and *A History of the Troubles in Saintonge*, the whole of the text of Palissy which follows the account of the delectable garden will be found trans-

From the consideration of these troubles Bernard naturally comes to the description of that impregnable fortress which he proposes as a city of refuge, "wherein one might be secure in time of war." He tells us how, when he had proposed to himself the difficult problem, "considering the furious batteries of which men now make use, I was almost out of hope, and went every day with my head bowed, fearing lest I should look at something which would cause me to forget the things of which I desired to think."

He first considered the existing towns, in order to ascertain whether some one of them might not assist him in obtaining an idea, but he found they could in no case serve him for a copy, "seeing that when the walls are overcome, the town is forced to a surrender. Truly," he says, "that is but a poor body of a town where the members cannot consolidate and aid each other." Then, finding that the figures of Jacques de Cerseau, and the plans of Vitruvius and Sebastian—of whose works there existed a translation—did not aid him, Palissy "walked like a man absent in mind, the head bowed, without saluting or regarding anybody, because of the interest which was engaged on behalf of the said town."

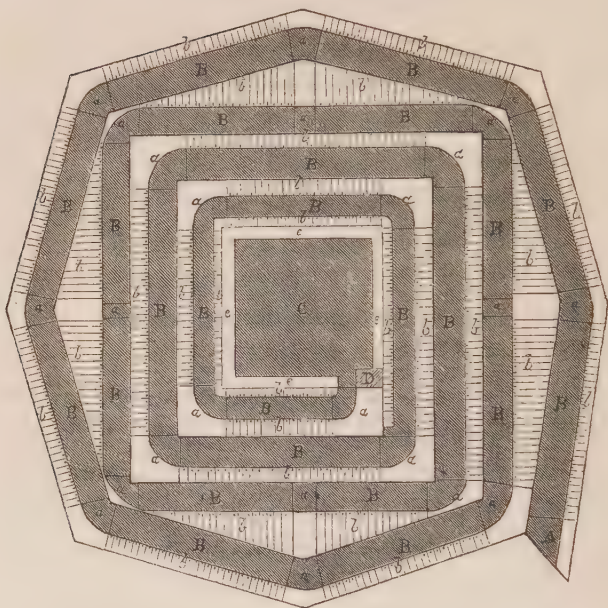
In discussing his garden, and in other places, Palissy occasionally shows that he has paid attention to details of
lated in the Appendix. Of the garden itself the design has been sufficiently detailed in the preceding abstract.

architecture, and that he has been studying Vitruvius. It is extremely probable that he was influenced in this respect by Jean Bullant, the architect of Ecouen, and his fellow-labourer at the château in executing ornamental works. Bullant was an enthusiastic student of Vitruvius, and must have been on familiar terms of intellectual acquaintanceship with Bernard Palissy. We shall see presently that they were fellow-labourers not at Ecouen only.

Palissy, getting no aid from the architects, examined also artfully constructed gardens, and endeavoured to gather some hint from the complex patterns of the flower-beds ; failing in this also, he began to wander through the woods, mountains, and valleys, to examine the fortresses constructed by the animals whom God had taught how to provide for their defence. There follows then another narrative, in which the naturalist displays his exquisite appreciation of the marvels of creation. "I found things," he says, "which made me all abashed, because of the marvellous Divine Providence which had bestowed such care upon these creatures." Encouraged and delighted by this study of creation from a special point of view, Palissy tells us how, "joyous enough, I walked hither and thither, to one side and to another, to see whether I could further obtain some lesson from the buildings of animals ; which lasted for the space of several months, during which time I always exercised my art as potter, to support my family."

Finding at length that it was "on the shore and the rocks of the ocean" that he was most likely to find suggestions suited to his own particular design, Palissy confined his studies to the sea. The delightful narrative of these researches into nature will be found in a selection from the works of Palissy at the close of the biography, together with the account given by Bernard himself of the city of refuge which he finally proposed to build. It will suffice here to describe the fortress briefly.

A citizen of Rochelle, named l'Hermite, had given to Palissy two large shells that had been brought from Guinea—a purple murex, one of those spinous, pink-lipped shells which we occasionally see on English mantelpieces, and a conch, one of the massive shells which we see now and then in England on balconies, or under empty grates. Palissy having observed "that God had bestowed more industry upon weak things than upon strong," selected therefore the weaker of the two shells; and "I could find," he says, "nothing better for the building of my fortified town than to take example from the fortress of the said purple murex, and took straightway a compass, rule, and other tools necessary for the making of my picture."



The picture was not given to the world by Palissy, except in a description with which the preceding woodcut has been made to correspond. The spiral form is copied from the shell. Palissy commences by drawing an open square (C), surrounded by a high wall corresponding to the backs of houses that have all their windows opening upon an outer street. Within this wall, and surrounding the square, are galleries (e e e) for holding artillery under cover. The lesser walls before the galleries are pierced with portholes, and the cannons pointing over the whole surface of the square are ready to open fire on any

enemy who, by mine or otherwise, should find their way into the centre of the town. Near one of the angles is the entrance to the square, and by that the governor's house (D); "in order that none might enter into the said square without the permission of the governor." Having made the square, Palissy begins from the portal to draw his spiral line; but since the business of cannon is to play in straight lines, he makes the first turn of his spiral in a square form. None of the walls are simply walls of defence, since Palissy considers that it is a very wasteful practice to build walls which serve no purpose in a time of peace. His defensive walls are therefore at the same time walls of dwellings (b b b), which open to the inner street with all their doors and windows, while they present outwards against the enemy a strong, hard back, pierced only for shot and missiles; so that "even children above six years old could aid in defending it on the day of assault, and that, too, without displacing any one of them from his own home and dwelling." At each angle of the spiral is a battery (a a a), under which the townspeople pass by a vaulted way that can be secured at either side with heavy gates. The guns from the battery at each end of each street, all the streets (B B B) being made straight for that especial purpose, are ready to play on any enemy enclosed between them, and each street, with its gates shut, becomes an enclosed fortress in itself. Palissy, having drawn in the same form the next turn of the spiral line, finds, when he comes to draw the third, that if he were to continue with the extended square, each street

would be too long to be commanded wholly by the batteries; his square, therefore, is converted into an octagon. The same arrangement is continued, which provides that each turn of the spiral shows a strong wall outwards to the enemy, and doors, windows, and traffic inwards to the people of the town. From this arrangement it follows that, in walking inwards from the outer gate (A), each street will be found to have traffic on the right hand, and fortress-wall upon the left; only the streets immediately outside the walls of the central square having shops, windows, and doors on each side of the way. The traveller will have to wind his way also round all turns of the spiral, and under all the batteries, if he should desire to visit a house near the entrance to the central square. Having made two turns in the octagon form, Palissy considered that his town was made sufficiently extensive. Accordingly he finished with a battery over the outer gates.

By the means of assault that existed in his own time, such a fortress as that planned by Palissy would be, of course, impregnable. It is quite true that the resistance of any one street to a governor who plotted a surrender, causing the gates of that street to be closed, would prevent either the enemy from passing in or the traitorous governor from passing out. It is quite true that a small garrison, and that of people following in ordinary life their peaceful trades, would be sufficient to defend this town. It is quite true that if the entire circuit of its outer walls were demolished by besiegers, the inhabitants of the town, having retreated to the next street, would

have lost no more than the few feet of ground, and be as well protected by their walls as though the siege were then for the first time commencing. A breach or mine would secure entrance into nothing but a single and straight street, commanded by two batteries able to sweep down all who might enter. "And what is more," says Palissy, with perfect truth, "if the enemies had been still more determined, and had broken a way quite through the middle of the said town, and that they could pass and repass through the said town to the number of forty abreast, drawing with them all kinds of engines and artillery, yet so it is that they would not yet have gained that town."

The resources of artillery could in the time of Palissy produce nothing that would have been able to subdue a town constructed upon this ingenious plan. Modern history suggests to us instantly the use that has been made of barricades, but Palissy appears not to have taken as an element into his calculations the possibilities of a revolt against authority. If the population of his city of refuge were to fall out upon the topics which in those days divided France, and Catholics should fortify themselves in one street, Huguenots in another, the peaceful streets lying within any blockade would be converted into prisons. As a curiosity, a specimen of ingenuity, this idea for a fortress is extremely interesting. It shows another of the many subjects on which Palissy employed his busy wit, and shows again how thoroughly the love of nature

governed all his other thoughts. From the woods and fields he brought his counsel to the farmers. Among the rocks he learnt the secret of the water-springs, and learnt a wiser doctrine than that fossils were earth-crystals, moulded by a plastic influence, descending from the stars. Lizards, leaves, flowers—patterns upon which God had lavished beauty—were the chosen models for his elegant designs in clay. A delectable garden was his ideal of earthly bliss, and even when he wished to plan a fortress that should withstand the utmost fury of a siege, he visited the nests of birds, and wandered on the rocks by the sea-shore, and finally adopted the design that was suggested to him by the contemplation of a shell.

CHAPTER IV.

PALISSY REMOVES FROM SAINTES.

THE book described in the preceding chapters was issued in the years 1563 and 1564. On the cover of the copies issued in the year 1564, the author is described as Bernard Palissy, of the Tuileries. Palissy continued, therefore, to reside at Saintes only for a very short time after the publication of his Trustworthy Receipt, and then, under circumstances which we shall presently examine, he removed to Paris.

Hitherto it has been found necessary to include among the chapters of this narrative a brief sketch of the origin of civil war between the Catholics and Huguenots. We could not understand the character of Palissy, or his position in the town of Saintes,—we could not feel the significance of the denunciations, or the true sense of the social narratives in the Trustworthy Receipt,—and we could not enter into the spirit of the relations between Palissy and the Constable Montmorenci, or his other patrons, without

recalling to our minds, as we went on, the progress of political events. Our narrative of the affairs of France need, however, be continued only over one or two more years. It closed with his imprisonment, and it must be resumed in order that we may understand how matters stood at the time when his book issued from the press, and what was the position of affairs in 1564, when Bernard went to Paris. Settled in Paris, Palissy devoted himself wholly to his labours as a potter and a naturalist. He took no part in the contention that distracted France, beyond the exercise of a freedom of speech, that seems to have been humoured as eccentricity in the simple-minded man. The contentions did, indeed, not leave him to repose ; he did not, it will be seen, escape his due share of affliction ; but his character was formed, his final course of life was taken. We must now dwell for a few minutes on the current of affairs in France between the date of the imprisonment of Palissy and that of his arrival in the capital ; from that time forward it will not be requisite for us to pay more than occasional and slight attention to political events.

At the end of September, in the year 1562, Rouen, besieged by the Catholics, was taken. The day before the town was taken, Antony, King of Navarre, having retired to the trenches on a summons which the mightiest have to obey, received the shot of a harquebus in his left shoulder. He was carried away to confession and sacrament ; caused the book of Job to be read to him for his comfort ; publicly declared that if he recovered he would

adopt the Reformed opinions; and turned his back upon a Jacobin before he died. His wife, Jeanne d'Albret, had left him to act with the Catholics in Paris, while she had herself retired to maintain Reformed opinions, and educate in them her son Henry, who became afterwards King Henry IV. So Antony, King of Navarre, was gathered to his fathers, and bequeathed to other Navarres his royal state and income of about six thousand a year.

There is another incident connected with the siege of Rouen, told by two or three contemporary writers, which furnishes an odd illustration of the chances and changes to which mortal life was subject in those days, when murder was every man's right-hand neighbour. There was a certain young Norman, Captain Seville, shot in the head, and tumbled from the rampart as a bird is picked off from a bough. At the foot of the rampart he was taken up for dead, and buried about mid-day with many corpses. His valet, coming in the evening with a horse to his master, and learning that he was both dead and buried, pressed to be shown the place of burial, that he might take away his master's body, and embalm it for the comfort of his parents. Having disinterred fifteen or sixteen men, with faces so much bruised and bloodstained that he could not recognise one as his master, he, with the aid of some companions, put the bodies hastily again into the ground. After their return to the camp, the faithful servant felt that they had been irreverent towards the dead, in restoring them so hastily to their graves; that dogs might commit an easy

burglary upon the last home of his master, if his master had been one of the men disinterred and hurried back into the ground again so carelessly. He persuaded, therefore, some of his companions to return with him after sunset, when the moon was up. Arrived at the ground, the valet saw the hand of a half-buried man protruding from the soil, and on its finger a diamond ring glittered in the moonlight. The ring attracted his attention, and he recognised it as belonging to his master. Captain Savile was then dug up, placed on a horse, and taken to his brother's lodging, where he was left until the third day, stretched on a mattress, because his friends perceived that he breathed, and that there was heat remaining in his body. Many surgeons were brought to the room, but when they saw the patient, carried away their drugs to the crowd of expectant sufferers for whom there was more hope. On the third day there were brought a physician and an advocate, who, forcing open the captain's teeth, poured into his mouth a drug with wine. While they were labouring to restore life in this way, the town was taken, the house entered by the enemy, the brother slaughtered, and the body of the captain roughly taken from the bed, and thrown out of the window. It fell upon a dunghill, and lay there neglected for three days, becoming covered with the filth and straw that were thrown out of the windows of the same dwelling. At last a cousin found the captain's body, and carried it out through the breaches to a village, in which it was resusci-

tated, and the captain's wounds were dressed, and his health perfectly restored. "I have seen him," D'Aubigné tells us, "forty-two years afterwards, acting as deputy from Normandy in the National Assemblies, and observed that when we signed our transactions, he always put 'François Seville, three times dead, three times buried, and three times by the grace of God restored.' Some ministers (contrary to my advice) desired to make him desist from this eccentricity, but they were unable to entreat him out of it." There is a flavour of romance and a suspicious dwelling on the number three in Savile's tale; of course, also, a breathing man, fairly put under ground for a few hours without a coffin, however slow might be the processes of life, would have his breath stopped most effectually. His exaggerated story was, however, credited in his own day, and certainly was suited to the day in which it was believed.

After the taking of Rouen, the Prince of Condé, being reinforced, marched out of Orleans upon Paris. There he was delayed by Catherine before the faubourgs of St. Germain, St. Jacques, and St. Marceau, and lost time over a vain endeavour to adjust peacefully the matters in dispute. Paris being strengthened, Condé, on the 10th of December, 1562, broke up his camp, and hastened towards Normandy to meet some English succours. Of the English troops aiding the Calvinists, and of the German troops aiding the Catholics, I shall not speak. We may remember, however, concerning the German troops, that

when bands of them were dismissed with a safe passport, after the first war, Catherine gave secret orders (wisely disobeyed) that in spite of their passport, they should be fallen upon and destroyed in their passage out of France, in order that none of their brethren might thereafter feel inclined to take part in and aggravate the tumults of the country.

The Prince of Condé, hurrying to Normandy, was pursued by the army of the Royalists, and overtaken at Dreux. A terrible battle was there fought on the 19th of December. The constable was taken prisoner, and one of his sons was killed. The Marshal St. André, one of the triumvirate, was destroyed by the pistol-ball of a personal enemy. The Prince of Condé, on the other side, was taken prisoner. The battle was won with difficulty by the Duke of Guise, who remained deprived of his two chief competitors at court—of St. André by his death, and of the constable by his imprisonment. The two prisoners, the Prince of Condé and the constable, were on each side treated with affectionate respect, great pains being taken to influence their minds, and disabuse them of the errors into which it was supposed that they had fallen.

The Duke of Guise, left sole head of the Royalists, went to besiege the head-quarters of the Huguenots in Orleans, while Admiral Coligny, sole general of the Reformers, was in Normandy awaiting English money, and preparing to bring help to D'Andelot his brother, by whom Orleans was defended. The Duke of Guise, having ridden

out before Orleans to review the preparations on the river for a grand assault, by which he hoped that Orleans might be taken, was shot down at twenty paces by an assassin of good birth, Jean Poltrot de Meré. The duke was taken home and died in six days ; it was said that the bullet had been poisoned. The assassin, under question and torture, accused Coligny and Beza as the instigators of the crime. Both denied the accusation ; Coligny said that he had paid money to Poltrot for service as a spy, but never hired him for the work of an assassin. The Duke of Guise then died a death of violence, as Antony of Navarre had died, as Marshal St. André had died, and as most of the great friends and rivals who survived him were to die, each in his own turn. The duke died counselling peace, and there succeeded a son, hot in passion, who regarded Coligny as the assassin of his father, and after some years, paid his debt of vengeance on the Day of St. Bartholomew.

The death of the Duke of Guise produced a lull in the hostilities, while the queen laboured to carry out his dying counsel. Coligny held out against all concession, but he being in Normandy, the captive Prince of Condé was persuaded to consent to terms which saved Orleans, as he believed, and secured tolerable terms for the Reformers, at the same time that it closed the war. The treaty was signed at Amboise, on the 19th of March, 1563. It left the Reformers at liberty to worship as openly as they pleased, in all towns held by them at the date of the

pacification. Elsewhere, they were subjected to numerous restrictions. Coligny, together with a large body of the Reformers, protested loudly against the conduct of the Prince of Condé in signing the conditions of Amboise at a time when, the Duke of Guise being dead, victory was certain. Coligny had an army gathered with much care in Normandy, which would have sufficed to compel the Catholics into concession of a full religious liberty. The treaty was signed, however, and the army of Coligny dispersed. The constable and the Prince of Condé quitted their captivity, and there was peace.

There was, indeed, need of rest for France. From commerce and agriculture, men had been called to arms; fields were untilled, or ravaged; the finances of the country and the bread of the people were almost destroyed. The poor were compelled to plunder. Hordes of brigands overspread the country, rivalled in ferocity by the acknowledged military leaders, among whom there was none more cruel than Blaise de Montluc. There was need of rest; but there were no minds calmed, there was no party subdued, there was no party satisfied. It was, therefore, to be foreseen by all thoughtful men, that there would be a renewal of the war when, on all sides, a little breath had been recovered. Palissy spoke of this when he was about to relate his plan for a city of refuge; and if we do not think that the allusion was interpolated by Palissy before committing his work to the press (it was published a few months afterwards), we must conclude

that this last part of his book at least was written after his imprisonment. "It seems to me, when I hear you talk," his querist is made to say, "that you do not feel assured of the peace which it has pleased God to send us, and that you have still some fear of a popular outbreak." "I pray to God," is the answer, "that it will please Him to give us His peace." It was in the beginning of the peace between the first and second civil war that Palissy's Trustworthy Receipt was published.

One of the first acts of the peace was to besiege Havre and drive out the English, to whom the town had been ceded by Condé, in pledge for the repayment of money advanced. Condé, in Paris, lived at ease. Cardinal Lorraine had been distinguishing himself at the council of Trent, which closed in December of the same year, 1563. Coligny, accused by the Guises of the duke's death, came to answer for himself at Paris, surrounded by a guard of five or six hundred gentlemen, which he considered necessary to his safety. Catherine, upon that hint, surrounded the king with a guard of six hundred Swiss and five hundred Frenchmen, in addition to the hundred Swiss formed into a royal guard by Louis XI. The Constable Montmorenci supported the cause of his nephew Coligny, regarding it as a private matter which concerned the honour of his house. His opposition to the Reformed Church party continued undiminished.

Peace was made with England, and his Majesty of France, thirteen years old, was declared of age at Rouen.

Charles IX., with the queen-mother, her maids of honour, and a gay retinue, accompanied by no more soldiers than civility required, then set forward on a festival journey through the south of France. They travelled, through applause and fireworks, to Bayonne, where the young king was to meet his sister Elizabeth, the Queen of Spain;—who had been plighted to the king's son, Don Carlos, and married, very much against her will, to the grey-headed father of her betrothed. The court set out upon this trip in the year 1564, and returned in 1565, after having visited many of the southern provinces. It may be that Catherine during this tour was visited by Palissy at some point in the royal progress not too distant from Saintes, and that she then engaged his services upon her proposed palace of the Tuileries. It may be that Palissy was indebted for his removal to Paris to the success of his labours at the Château of Ecouen. The architect of the château, Jean Bullant, was selected to assist in building the new palace of the queen-mother, and with Bullant as architect, it may have appeared natural to summon Palissy as decorator of the gardens. Upon this point we can only speculate; but we know with certainty that very soon after the publication of his Trustworthy Receipt, Bernard Palissy of Saintes became Bernard Palissy of the Tuileries, his workshop being then, as he tells us in a later book, within the precincts of the Tuileries, and near the Seine.

The object of the queen-mother in founding what is now called the Palace of the Tuileries was very natural.

As the king grew in years, it became less advisable that he should reside like a child under the same roof with his mother; Catherine proposed, therefore, to quit the Louvre, and establish a habitation of her own. She by no means intended to retire from active interference in the State affairs, and resolving not to travel far, laid the foundations of her new home on a piece of ground, close to the trenches of the Louvre, called the Tuileries. This ground, which had been occupied by tuileries—by tile-kilns—had been bought in 1518 by Francis I., and given by him to his mother, Marie-Louise of Savoy. Catherine added to this ground, in 1564, a purchase of the site of some adjacent buildings, and in the same year caused the digging of the foundations of her new palace to be commenced, under the two architects, Jean Bullant and Philibert Delorme. The intended palace was named, from its site, on what had been the potters' field, placed out of town for prudence and convenience, the Palace of the Tuileries. In the same way one of the finest quarters of old Athens was called the Ceramic, because it covered ground once held by extra-mural potteries. From the precincts of the Palace of the Tuileries the traces of the brick and tile makers had not been erased even in the time of Louis XIV. On manuscript plans that belong to the beginning of that reign, the place occupied by wood-stacks and kilns are to be found marked in the courts of the château.

Among the tile-makers, therefore, whose wood fires

were not yet extinguished,—among the gardens that partly occupied the site of the new palace,—among the pulling down of buildings, and the turning up of earth for the foundations of the queen-mother's new palace, Palissy established his workshop. From that time forward he was able to live in constant intercourse with men of genius and the best works of art collected in the capital. The position of Bernard's works at Saintes must, indeed, before that time, have proved inconvenient. His chief patrons were the great men of the court, from whom in a remote province it was not easy to receive frequent visits; and although their houses might be scattered throughout France, it would in most cases be easier to visit them, or to transmit completed works to them, from Paris than from Saintes.

Palissy removed, therefore, to Paris, and established his workshop in the precincts of the Tuileries. His work on behalf of the queen-mother formed only a small part of his daily occupation. His taste being aided by a study of the best works of Italian art, he was now able to surpass his former efforts in the creation of elegant and rich designs. Very few traces of the large figulines of Palissy—his rocks, trees, dogs, or life-like human figures—now remain; but he found much employment in his own time upon such works for garden architecture. The park at Chaulnes, in which Gresset composed his “Chartreuse,” was executed according to a plan resembling that of the delectable garden. The Château of Nesle in Picardy,

that of Reux in Normandy, and perhaps the royal château called Madrid, after the Spanish captivity of King Francis, in the Wood of Boulogne, are some of the places upon which it is remembered that Bernard Palissy was once employed.

Those works of the famous Potter which were meant to adorn rooms, being smaller, more numerous, and better protected than his garden-pieces, have been much more successful in withstanding all the accidents of time. Statuettes, elegant groups, vases, cups, plates, corbels, rustic basins, and clay moulded into beautiful forms, enamelled and painted for many other uses, still remain, and obtain a high price as works of taste in our own day.* Some are covered with modellings, exquisitely coloured, of fruit, shells, fishes, and reptiles. Others present coloured pic-

* M. P. A. Cap, the editor of the 8vo. edition of the works of Palissy, published in 1844, named M. Ch. Sauvageot as then the possessor of the most complete series of the works of Palissy, in a collection of the best artistic productions of the sixteenth century. Mr. Marryat, in his "History of Pottery and Porcelain" (1850), says that "the most extensive and complete collection of Palissy's fayence exists in the 'Musée Royale,' in the Louvre, and in the Hôtel de Cluny, purchased since the death of M. du Sommerard, its late proprietor. These magnificent specimens were eagerly bought up by the French government, from a just appreciation of the merits of their talented and much-persecuted countryman." At a sale at Phillips's, of Palissy-ware belonging to M. Roussel, of Paris, Mr. Marryat informs us that a very large vase, "enriched with boys in relief, supporting flowers and fruit in festoons, with mask heads, on a fine blue ground, and snake handles, sold for 57*l.* 15*s.*; a very curious candlestick, with perforated work and heads in relief, sold for 20*l.*; and various figures and other small objects brought high prices."

tures, in the most delicate bas-relief, of subjects taken from mythology or Holy Writ. The colours used by Palissy were commonly bright tints of yellow, blue, or grey; he used also, but less frequently, green, violet, and brown. His enamel is hard, but he seems never to have succeeded in making it so purely white as the enamel of Luca della Robbia.

During the ten years following his settlement in Paris, Palissy, familiarly called Bernard of the Tuileries, laboured with his sons as a potter, at the same time that he exercised his genius as a naturalist among the men of taste and learning in the capital, and continued actively the prosecution of his studies among the hills and fields. His philosophy grew yearly deeper and wider, and the knowledge displayed in his publication of the Trustworthy Receipt was left behind, as he thought his own way forward to maturer views.

This narrative should not omit to chronicle the death of the great patron of Palissy, the Constable Montmorenci. There were two more bursts of civil war, and two more peaces between that of which we have already spoken and the Massacre of St. Bartholomew. During these wars Bernard continued quietly at work, and no man interrupted him. At the beginning of the second war, however, he lost his friend, the constable, who was brought with six wounds into Paris, from the battle of St. Denis, in which, though he was then seventy-four years old, he had been fighting stoutly. He died on the next day, and

received from the queen funeral obsequies similar to those lavished upon princes of the blood. She paid the money joyfully, the *Sieur d'Aubigné* hints, counting the death of her controller as one of the blessings of her life, and an assurance of success in her designs. The mourning was most thorough in the hearts of old state counsellors, who, deprived of the protecting shadow of the constable, no longer were assured that they might safely give free expression to their sentiments.

In the year 1569, the Prince of Condé perished in the battle of Jarnac. By an accidental kick from the horse of La Rochefoucault, his leg was splintered so that the bone appeared through his boot; but paying no heed to the injury, he led his troop into the battle, had his horse killed under him, and finally was slaughtered with a pistol-bullet from behind. He was but thirty-nine years old, and perished as Antony of Navarre had perished, and as each member of the old triumvirate, the Duke of Guise, Saint André and the constable, had perished, by a death of violence, unhappily well suited to the temper of the times.

Palissy, in the mean time, laboured in the precincts of the Tuileries. The building of the palace had proceeded steadily, under the care of Delorme and Bullant, and it rose at no great distance from the Louvre, which was then itself a new structure, the design of Pierre Lescot. Lescot, of equal age with Palissy, was the leading architect of his

own day; Delorme and Bullant yielding very little precedence to him in reputation.

There is a MS. in the Royal Library at Paris, entitled, "Expenses of the Queen Catherine of Medicis," in which, among expenditure for the year 1570, there occurs note of a payment "To Bernard, Nicolas, and Mathurin Pallissys, sculptors in earth, of the sum of two thousand six hundred livres, for all the works in earth, baked and enamelled, which remained to be done for the completion of the (four bridges?—the writing in MS. is indistinct at this part, but appears to be 'quatre pons') which lead to within the grotto commenced for the queen, in her palace near the Louvre at Paris, according to the agreement made with them."

The grotto here named is perhaps one of those works placed in a circular island, and approached by bridges, in the way described by Bernard in his account of the delectable garden. We find him, at any rate, upon the testimony of the manuscript, to have been busily carrying into effect one of his ingenious garden plans within the Tuileries, in the year 1570. In the year 1572 Catherine abandoned the Tuileries. Disgusted with her palace, by chimerical predictions, she bought for herself another home in the Hôtel de Soissons. The Palace of the Tuileries continued to increase from time to time in after years, under succeeding princes, but there remains to our own day little or no trace of the work of its first architects,

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Delorme and Bullant. Their edifice was planned upon a scale much larger than the present building.

The year 1562, in which Catherine quitted the Louvre (she was then fifty-three years old), is the date of the Massacre of St. Bartholomew. Palissy survived it, though he made no secret of his faith ; his quiet life and his employment in the royal service doubtless sheltered him. He had said of the outrages committed in Saintonge, " If you had seen the horrible excesses of men that I have seen during these troubles, you have not a hair in your head that would not have trembled at the fear of falling to the mercy of men's malice. And he who has not seen these things could never think how great and horrible a persecution is." The cry of " Bleed them, bleed them, for the doctors say a bleeding is as good in August as in May !" the boast of the mechanic, who displayed his arm clotted with blood to the shoulder, and proclaimed that he had thrust a sword with that arm through four hundred living bodies, had no parallel in Saintes. It is happily not necessary for this narrative to dwell upon the familiar story of the massacre. Palissy escaped. About two years afterwards, in May of the year 1574, Charles IX. died at the age of twenty-five. He was the fourth king whom death had taken from the throne of France during the vigorous life of Palissy. On the accession of the new king, Henry III., the poor Potter, Master Bernard of the Tuileries, was sixty-five years old. He was regarded by all men as a very honest man, vindictively watched by

some men as a Huguenot, admired for his clear-sighted philosophy by some of the first scientific men in Paris, but by the rest despised as a mechanic ignorant of Greek and Latin, who did well modestly to call himself "Worker in Earth." He was well known in Paris, and a man to patronise, to talk about as "the poor Potter, M. Bernard."* But he had no fame in his own day except among the luxurious who bought the produce of his labour in the workshop, or the few men who had enough in them of true philosophy to know the value of his labour in the fields.

* Que direz-vous du pauvre Potier, M. Bernard, a qui le même roi parla un jour, &c.—*Confession de Sancy*.

CHAPTER V.

PALISSY IN PARIS.

CONCURRENT with Bernard's other occupations, was that labour in the art of pottery which he at no time omitted to pursue, during all free years of his life, between the date of his discovery of white enamel and the date of his decease. It may be convenient to state here, that after his death, the labour of his workshop seems to have been continued by his sons, who, possessing designs, moulds, and unfinished pieces left to them by their father, used them in the prosecution of their business. In this way, it is easy to account for the existence of a plate in which the borders form a pure specimen of Palissy-ware, while the painting in the centre represents Henry IV. and his family. The sons of Palissy, wanting their father's genius, feebly sustained the reputation of his ware; they could produce nothing comparable to their father's exquisite designs. Whether they died, and took out of the world with them the

mechanical secrets of their father's art, or whether the wits of Palissy found bread for yet another generation of descendants, it is now impossible to tell. The secret of Palissy soon perished, and of the feeble efforts of his sons the history of art retains no record.

It will not be necessary to recur to the subject of Bernard's labour as a potter. We have only to bear in mind, during the remainder of this narrative, the fact, that Palissy, while he became prominent, during his last years, as a man of science, was also labouring industriously in his workshop. We may now, therefore, close this portion of our subject, and append to it, by way of signature, the Potter's mark, as it was graved, with a sharp point, by Bernard, on the produce of his hands.*



It has been seen already that Palissy was, for a long time, known by those who had any acquaintance with him, as a collector of natural curiosities. He speaks, incidentally, in his "Trustworthy Receipt," of the citizen of Rochelle, named l'Hermite, who made him a present of two foreign shells ; of Pierre Guoy, citizen of Saintes,

* The mark is copied from that given in Mr. Marryat's work on Pottery. Mr. Marryat extracted it from the *Description du Musée Céramique de Sèvres*, by MM. Brongniart and Riocreux.

who found upon his farm a remarkable stone, and because he knew that Palissy was curious in such things, made a present of it to the Potter. We are told, in the same way, of the Abböt of Turpenay, of La Mothe Fénélon, secretary to the King of Navarre—a wily and ambitious man, the same who was afterwards sent over to justify, to the court of England, the Massacre of St. Bartholomew—as lovers of letters, who had made presents of natural curiosities to Bernard, “knowing,” as the Potter says, “in very good truth, that I was curious about such things.” Palissy had, in fact, been forming, and possessed, in the year 1575, a cabinet of natural history, calculated to illustrate, very fully, the philosophic views of nature which he had, by that time, matured. In the year 1575, the age of Palissy then being sixty-six, the Potter had developed, fully, all those views of nature which we shall have presently to detail, and which make good his title to a very high rank among the philosophers of the sixteenth century. Before putting the final results of his researches into his last and most important book, he wished to make proof of their soundness, and to subject his reasonings to the severest test.

Modestly sensible of his ignorance of those languages in which was contained the learning of past time, believing, nevertheless, that he had pushed on his knowledge, as a naturalist, many steps into the future, he desired to know whether he might not, on some points, have deceived himself. It was quite possible that many things,

which he had thought out for himself, had for a long time been familiar to the scholars ; it was quite possible, too, that positions which, to his mind, appeared incontrovertible, when exposed to the keen criticism of learned men, might easily be controverted or destroyed. Such things were possible, though Palissy was not wanting in a strong conviction, on his own part, that his views were true. If false, they could not be too speedily demolished. Palissy, a true philosopher, saw in free discussion, strict inquiry, the true interests of science ; and he resolved, therefore, to invite about him the most learned scholars and physicians then residing in the capital, to meet them in his museum, to state to them his views, and illustrate his case as he went on, by specimens, rather than pictures or descriptions, of the things about which he spoke. He proposed to invite interruption, contradiction, and discussion, at these lectures ; and he announced himself ready, at all times, to answer inquiries at his own house, and explain the specimens in his collection.

Palissy himself tells us,* that it was in the Lent of the year 1575 that he delivered his first course of lectures, which he proposed to continue annually. He was still delivering them in the year 1584.† He delivered them

* In the treatise "On Stones."

† In the *Bibliothèque de Sieur de la Croix Dumaine*, published in 1584, it is said of Palissy, who is described as a "natural philosopher, and man of a remarkably acute and ready wit," that he flourishes at Paris, aged sixty years and more (fifteen more ; but he must have had a vigorous appearance, that would easily deceive the eye)—"he flourishes at Paris, and gives lessons in his science and profession."

in his museum. The collection of Palissy was the first cabinet of natural history that had been used more liberally than as a private hoard of curiosities in Paris; and his were the first lectures upon natural history ever delivered in that capital.

They were no idlers to whom Palissy declared his views, and of whom he invited contradiction. There was assembled in the Potter's cabinet an Academy of Science, a Royal Society evoked for the occasion. Bernard detailed the result of his original researches; and the best men of the capital were there to discuss his arguments, and subject all he said to strict inquiry.

Bernard includes, in his last work, a list of some of the chief persons who attended his first series of demonstrations, and who declared themselves convinced of the reasonableness of his opinions. The philosopher, vigorous of mind and body, at the age of sixty-six exhibited no trace of bodily decay; he was still noted, nine years afterwards, for his remarkably acute and ready wit; and his age, when it was seventy-five, seemed little more than sixty. The vigorous old man, passing from the furnace and the chamber, whose shelves were resplendent with the rich creations of his fancy, went into his cabinet, and poured out the lessons he had learned by the road-sides, by the sea-shore, and among the mountains, before a grave assemblage of men, paled by study, or grown grey with years.

Ambroise Paré was among them. He had been first-

surgeon to four kings. He was a sturdy Huguenot. His fame as a scholar has descended to our own time ; and his skill as a surgeon, in saving Charles IX. from the danger that ensued upon a clumsy lancet-wound, caused him to be saved from the Massacre of St. Bartholomew. We will make acquaintance, briefly, with the chief attendants in the lecture-room of Palissy. Ambroise Paré, of the body of Master Barber-Surgeons, was a man who certainly contributed much to the advancement of surgery in his own day, though there was an unprofessional want of dulness about him, which, taken together with his innovations in practice and his heresy in religious creed, made him an object of jealousy and stout abuse among the little and loud men who create the noise in a profession. Paré introduced the method of arresting the flow of blood, after an amputation, by the use of ligatures, in place of the actual cautery. Ligatures are now universally employed,—the spouting blood-vessels are tied; but, in the sixteenth century, the custom was to burn them ; and, when Gaspar Martin, the brother-in-law of Paré, died, after an amputation performed by Ambroise in his own way, a great triumph and exultation took place over the innovator. Paré was, for three years, surgeon to the Hôtel Dieu, in Paris. Between 1536 and 1543, he was surgeon to a troop of soldiers in the army of Piedmont. He then served as surgeon to companies under M. de Rohan and the dauphin. In 1544, he was with the king's army at Landrecy. In 1545, he was at

Boulogne-sur-Mer with the army against the English. In 1552, still under M. de Rohan, he served in Germany; then he was at the siege of Damvilliers, by Henry II., and at Château le Comte, under Antony, afterwards King of Navarre; then he was in Metz during the siege. In 1553, he was in another besieged town; and, on its capture, having been made prisoner of war, was sent home without ransom. In 1558, he was at the battle of St. Quentin; in 1562, at the siege of Rouen, at the battle of Dreux, in which the Prince of Condé and the constable were taken prisoners, and at Bourges. He was at other battles of the civil wars, and at the siege of Havre. During the Lent of 1575, he attended the public demonstrations in the cabinet of Palissy the Potter.

The mind of Ambroise Paré, in the lecture-room of Palissy, may now and then have wandered to a contest in which he was at that time engaged, touching the republication in a body of his own surgical works. He had often thought it prudent to evade the discredit that attached, in his day, to bold views and innovations on the practice of the ancients, by publishing his tracts under fictitious names. Thus "Aparice" had represented "A. Paré, C."—Ambroise Paré, Chirurgien. The doctors of medicine in Paris had obtained a decree in 1535, forbidding the publication of medical books until they had obtained the sanction of the faculty, and they were opposing at that time the independent publication of the surgical works of

Master Ambroise Paré. Paré had brought his case for argument before the Court of Parliament, and therein the suit between Master Etienne Gourmelen, Dean of the Faculty of Medicine, and Master Ambroise Paré, Barber-Surgeon, remained undecided in the Lent of 1575.

By the side of Ambroise Paré, the surgical reformer and the Huguenot, sat his friend and less illustrious collaborator, Master Richard Hubert, commonly called, according to the usage of that time, Master Richard, Surgeon in Ordinary to the King. There was a goodly array, also, of grave physicians assembled in the lecture-room of Master Bernard. In the first place, there were Master François Choisin and Monsieur de la Magdalene, both physicians to the Queen of Navarre. François Choisin de Châteleraut had become, only in the preceding year, licentiate of the Faculty at Paris, and while attendant upon Bernard's first series of lectures, was engaged in preparation of the thesis which he had engaged that year to sustain, upon the theory of Periods in disease. Of this Master Choisin Palissy speaks, in his last book, as a lover of philosophy, "whose company and visits to me were a great source of consolation." We are told of a geological excursion in which Palissy was accompanied, in this year 1575, by Choisin, and a young scholar in medicine, twenty-two years old, named Milon. Milon also attended the demonstrations in Bernard's cabinet. He was a pupil of great promise, who afterwards became, in the year 1609, first-

physician to Henri IV., who lived to write a book about the colic of Poitou, and to be apostrophised as

“ Tu Milo doctissime
Qui cuncta volvis mente perspicaci.”

There were attendant also upon Master Bernard's first demonstrations, Alexandre de Campege, physician to Monsieur, the king's brother ; Guillaume Pacard, a physician from Burgundy ; Philibert Gilles, a physician also out of Burgundy, whose mind was then revolving a thesis upon Epilepsy ; Germain Courtain, a venerable man, who publicly taught the arguments of Palissy concerning potable gold, as Doctor and Regent in the Faculty of Medicine ; Jean du Pont, and Messieurs Drouyn, Clément, Misere, and de la Salle, physicians from sundry parts of France, and Pierre Pena, of the same fraternity. Pierre Pena was an able botanist, born of a noble house in Provence, whose horoscope diverted him from arms to science. He studied with so much good effect that he became secret physician to King Henry III., and left at his death a fortune of six hundred thousand livres. He and his fellow-student, Mathias de Lobel, were doctors of Montpellier. Lobel saw much of the world ; he became physician to William, Prince of Orange, practised at Delft and Antwerp, was physician and “ botanographer ” to James I. of England, and died a Londoner in the year 1516. In conjunction with Mathias de Lobel, Pierre Pena had issued from the press of London, three or four years before

the date of Bernard's lectures, a medico-botanical work, full of research and erudition.* It was—in Latin, of course—published in England, and dedicated to Queen Elizabeth, probably because its authors were both Protestants, who saw little hope of a calm hearing in their own distracted country.

There were present also at the lectures of Palissy, Messieurs Paiot and Guerin, apothecaries of Paris, and the Marquis of Saligny in the Bourbonnois, Knight of the Order of the King. Monsieur Dal Bene was there, with his brother, the abbot, to whom Ronsard dedicated his *Poetic Art*. Monsieur, the brother of the abbot, was called a poet in his time, and there remains of him a Latin distich, founded on the miserable state of France, in which the shortness atones barely for the want of special merit.†

There was present also at the Potter's demonstrations Jacques de la Primaudaye, of noble family in Anjou, who had shared with his brother Pierre in those instructions which gave rise to the publication, by Pierre, of a book called "*The French Academy*," within a year or two of

* "*Stirpium adversaria nova perfacilis vestigatio, luculentaque ad priscorum præsertim Dioscoridis et recentiorum materiam medicam.*

"*Quibus propediem accedet altera pars. Qua conjectaneorum de Plantis appendix, de succis medicatis et metallicis sectio, antiquæ et novatæ medicinæ lectorum remediorum thesaurus opulentissimus de succedaneis libellus continentur authoribus Petro Pena et Mathia de Lobel, Medicis.*" Londini Thomæ Purfoetii, fol., 1570.

† "*Gallia, quæ nunquam fuit in sua commoda constans, In sua constanter commoda cæca ruit.*"

the year 1575, with which this narrative is now concerned. An ancient gentleman of Anjou had received into his house four youths, of whom the Primaudayes formed two, and placed them under an accomplished teacher, who provided pleasantly the pith of university instruction, without the tediousness of detail, and the waste of time, and words, and labour that belonged in those days to a college education. They learnt Latin and Greek, moral philosophy and history; and the results of the lessons they received formed the thick volume called “The French Academy,” of which an edition was dedicated, in the month of February, 1577, to Henry III., by Pierre de la Primaudaye. Jacques de la Primaudaye, so educated, was adding to his knowledge by attendance on the discussion in the cabinet of Bernard Palissy, during the Lent of the year 1575. There were present, also, Master Jean Viret, an expert mathematician, then about thirty-two years old; Master Michel Saget, a man of judgment and good wit; Master Bartholomew, a prior, experienced in the arts, with other learned men, lawyers, scholars, and priests; among them Nicolas Bergeron, advocate, classical scholar and mathematician—a pupil of Pierre la Ramée, by whom he had been chosen to act with Antoine l’Oisel, and did act, in the year 1568, as testamentary executor in the founding of a public chair of mathematics in the Royal College of France.

Such were the men who gathered around Palissy, in

what the Potter calls* "my little Academy." Palissy placarded his proposed course of three lectures and discussions in the most frequented parts of Paris, charging a dollar for admission; and he promised, in his own quaint, fearless way, to return four dollars for every one that he received, if his teaching should admit decisive contradiction. His own account of the establishment of his lectures† and demonstrations becomes doubly interesting, when we recollect that it is an account of the first natural history lectures ever heard in Paris—of the first society established in Paris for the pure advancement of science, by discussions among learned men, which were to be held in the first natural history museum ever thrown open in that capital.

"I considered," Bernard says, "that I had employed much time in the study of earths, stones, waters, and metals, and that old age pressed me to multiply the talents which God has given to me; and for that reason, that it would be good to bring forward to the light those excellent secrets, in order to bequeath them to posterity. But, inasmuch as these topics are high and comprehended by few men, I have not dared to make the venture until, in the first place, I had ascertained whether the Latins had more knowledge of them than myself; and I was in great trouble, because I had never seen the opinion of philoso-

* In the Epistle to the Reader, of his last book.

† It occurs in the treatise "On Stones."

phers, to know whether they might have written upon the above-named things.

“I should have been very glad to have understood Latin, and to have read the volumes of the said philosophers, to be informed by some, and to detect faults in others; and thus debating in my mind, I decided to cause notices to be affixed at the street corners in Paris, in order to assemble the most learned doctors and others, to whom I would promise to demonstrate in three lessons all that I have learnt, concerning fountains, stones, metals, and other natures. And in order that none might come but the most learned and the most curious, I put in my placards that none should have admission without payment of a dollar for the entry to the said lessons; and I did that partly to see whether, by the help of my hearers, I could extract some contradiction which might have more assurance of truth than the arguments which I might lay before them: knowing well, that if I spoke falsely, there would be Greeks and Latins who would resist me to my face, and who would not spare me, as well on account of the dollar that I should have taken from each, as on account of the time I should have caused them to misspend: for there were very few of my hearers who could not elsewhere have extracted profit out of something during the time spent by them at my lessons. That is why I say that if they had found me to be speaking falsely, I should soon have been baffled: for I had put in my placards, that if the things therein promised did not

prove trustworthy, I would restore the quadruple. But, thanks be to God, never man contradicted me a single word. Which being considered, and seeing that I could not have more faithful witnesses, nor men more assured than those in knowledge, I have taken courage to discourse to you all these things, well testified, in order that you may not doubt that they are trustworthy. And, to make you yet the more assured about them, I will give you here a catalogue of the noble, honourable, and most learned men who were present at my lectures (which I gave in the Lent of the year One Thousand Five Hundred and Seventy-five), at least of those whose names and quality I could learn: who assured me that they would be always ready to bear testimony to the truth of all these things, and that they had seen all the mineral stones and monstrous forms which you have seen at my last lectures of the year One Thousand Five Hundred and Seventy-six, which I have continued, in order to obtain an increased number of witnesses."

The character of the group which surrounded Bernard Palissy on these occasions we have already discussed. The character of the doctrines which Bernard, when they were supported by the good opinion of such friends, "took courage to discourse," we are about, in the next place, to examine. They were collected in a book, and published at Paris in the year 1580, by Martin the younger, at the sign of the Serpent, opposite the College of Cambray. They represent the highest point attained by Palissy as a philo-

sopher. By the progress of three centuries we have been brought to a position from which we can look fairly down on the thick clouds of ignorance out of which Palissy emerged, though we ourselves have reached an atmosphere by no means cloudless. From our advanced ground let us endeavour now to look back fairly on the science taught by the self-educated Potter, and compare, as we can, the views of Master Bernard with the philosophy before known to the audience, which for nine years represented annually at the demonstrations in his cabinet the wisdom of the day. Bringing the opinions of Palissy and those of his contemporaries both into requisite comparison with modern science, let us attempt to ascertain what claim the Potter had upon the admiration which he has obtained from men like Buffon, Haller, and Jussieu.

CHAPTER VI.

THE NATURALIST PUBLISHES, IN A LAST BOOK, HIS
MATURED OPINIONS.

PALISSY published his third and last book—the second and last known to us with certainty—in the year 1580, he being at that time seventy-one years old. It was dedicated by him to his ancient friend and patron, who was then probably still older than himself, the Sire de Pons, the same who had interfered on his behalf, and assisted in procuring his liberation from the prisons at Bourdeaux. The Sire de Pons, Count of Marennes, had been admitted a knight of the order of the Holy Spirit at the promotion which took place in the year 1578. “To the very high and very powerful lord, the Sire Antoine de Pons, knight of the orders of the king, captain of a hundred gentlemen, and his majesty’s very faithful councillor,” Palissy writes his dedication in the manner following :

“The number of my years gives me the boldness to tell you that one day I was considering the colour of my

beard, which caused me to reflect upon the fewness of the days which remain to me, to end my course: and that has led me to admire the lilies and the corn, and many kinds of plants, whose green colours are changed into white, when they are ready to yield up their fruits. Many trees also very soon look hoary when they feel their vegetative and natural virtues to have ceased; a like consideration has reminded me that it is written, that one should take heed not to abuse the gifts of God, and hide the talent in the earth: also it is written, that better is the fool who hides his folly than the wise man who conceals his wisdom.

“It is therefore a just thing and reasonable,” Palissy continues, dwelling on the spirit of that parable which formed the mainspring of his industry—“it is a just thing and reasonable that each should seek to multiply the talent that he has received from God, following His commandment. Wherefore I have studied to bring into the light the things of which it has pleased God to give me understanding, according to the measure which it has pleased Him to bestow upon me, for the profit of posterity. And because many under good Latin or some other polished tongue, have set abroad many pernicious talents to mislead and cause the loss of time to youth: forasmuch as a Geber, a Romaunt of the Rose and a Raymond Lully, and some disciples of Paracelsus and many other alchemists have set abroad books of a study by which many have wasted time and thrift. Such pernicious books have caused me to

scratch in the earth for the space of forty years, and search among the entrails of the same, in order to understand the things which she produces in herself, and by such means I have found grace before God who has caused me to understand secrets which have been to the present time unknown to men, even to the most learned, as any one may understand from my writings contained in this book. I know well that some will jest, and say that it is impossible for a man destitute of Latin to have intelligence concerning the things of nature ; and they will say that it is on my part great temerity to write contrary to the opinion of so many famous and ancient philosophers, who have written upon natural facts and filled the whole world with their wisdom. I know also that others will judge by the outside, saying that I am no more than a poor artisan : and by such discourses they would cause my writings to be ill received. In truth, there are things in my book which the ignorant will find it hard to believe.

“ Notwithstanding all these considerations I have not ceased to pursue my enterprise, and to cut the thread of all calumny and delusion I have arranged a cabinet, in which I have put many things note-worthy and monstrous, that I have taken from the womb of the earth, which bear certain witness to my teachings, and no man will be found who will not be constrained to own that they are trustworthy, after he shall have seen the things that I have prepared in my cabinet, to give assurance to all those who would not otherwise put faith in my writings.

If there should chance to come one blockhead, who would not accept the evidence placed in my cabinet, I would require no other judgment than your own, which is sufficient to convince and overturn all the opinions of those who would oppose it." The good old Sire de Pons must have been indeed a giant-killer in debate, if this were so; but Bernard speaks not in flattery, but in the partiality of friendship to his ancient patron. "I speak it in truth," he says, "and without any flattery: for inasmuch as I had good proof of the excellence of your wit, since the time when you returned from Ferrara* to your château of Pons; so it is that, in these later days in which you have been pleased to speak to me of divers sciences, to wit of philosophy, astrology, and other arts drawn from mathematics; that I say has caused me to double the assurance and conviction of your marvellous ability; though number of days causes in many people diminution of the memory, yet so it is that I have found yours augmented rather than diminished. This I have learnt by the conversations which it has pleased you to hold with me; and for these reasons I have thought that there is no seigneur in the world to whom my work could be more fitly dedicated than to you, knowing well that while it might be esteemed by some as a fable full of falsehoods, by you it will be prized and accounted a

* He had relations there. Jacques, father of Antoine Sire de Pons, had married Catharine of Ferrara. Antoine himself married Anne de Parthenay, daughter of the Seigneur de Soubise.

rare thing. And if there be in it any words ill-polished, or ill-arranged, you will know well how to extract the substance of the matter and excuse the too rude language of the author ; and having such hope, I will pray you very humbly to do me this honour, to receive it as from the hand of one of your very humble servants."

The book thus dedicated to the Sire de Pons, and containing the mature fruit of the studies of the naturalist, bears the following title:* "Admirable Discourses on the Nature of Waters and Fountains, as well natural as artificial ; on Metals, on Salts and Salt-springs, on Stones, on Earths, on Fire and on Enamels. With many other excellent Secrets of natural Things. Also, A Treatise on Marl, very useful and necessary for those who are concerned in Agriculture. The whole drawn up in Dialogues, wherein are introduced Theory and Practice. By M. Bernard Palissy, Inventor of Rustic Figulines to the King, and to the Queen his mother." It was published at Paris, in one volume octavo, by Martin le jeune, at the sign of the Serpent, opposite the College of Cambray.

All the theories of Palissy were founded upon, and tested by, experiment and observation. Speculations upon

* "Discours Admirables de la nature des eaux et fontaines, tant naturelles qu'artificielles, des métaux, des sels et salines, des pierres, des terres, du feu et des émaux ; avec plusieurs autres excellents secrets des choses naturelles. Plus, un traité de la marne, fort utile et nécessaire à ceux qui se mellent de l'agriculture. Le tout dressé par dialogues, ès quels sont introduits la théorique et la pratique. Par M. Bernard Palissy, inventeur des rustiques figulines du Roy, et de la Royné sa mère."

nature, founded upon any other basis, pure products of the mind, under the name of Theory, as something opposite to practical investigation,—elaborations out of Latin into Latin,—Bernard seldom omits any occasion to discourage. His own lessons were learned by a process much more wholesome, and produced in him a robust and healthy intellect. To the readers of his book, whom he addresses after he has concluded his dedication to the Sire de Pons, Palissy expresses in stout terms this feeling. It was most especially essential, in a day when study of the works of nature was but young upon the wing, weak as a fly, and making in its inexperience rash tours among the cobwebs to which Palissy so earnestly exhorted application of a broom.

"Friend reader," he says, "the desire I have that you may profit by the reading of this book, has incited me to warn you that you should take heed against the weakening of your wit over sciences written in the chamber by the prompting of a theory either imaginative or picked out of some book written from the imagination of those who have experience in nothing, and take heed how you believe the opinions of those who say and maintain that theory has engendered practice. They who teach the like doctrine assume an argument ill founded when they say, that one must imagine and figure the thing one desires to compass in the mind before putting a hand to the business. If man could compass his imaginations I would be of their side and opinion: but it must needs be

that if things conceived in the mind could be executed the bellows-blowers* of alchemy would do great things, and would not waste, as many have done, fifty years upon a search; if theory figured to the mind of chiefs in war could be reduced to practice, they would never lose a battle.

“I venture to say to the confusion of those who hold such an opinion, that they could not make a shoe, nor even a stocking-heel, if they knew all the theories in the world. I would ask those who hold such an opinion, if they should have studied fifty years in books of cosmography and navigation of the sea, and should have maps of all the regions and the lead, the compass and the astronomical instruments, would they for all that undertake to guide a ship to all countries as would be done by a man of good experience and practice; they would shrink from putting themselves into danger, whatever amount of theory they might have learnt: and when they should have well discussed the matter, they would of necessity confess that practice is the source of theory. I have put this proposition foremost, to close the mouth of those who say, how is it possible that a man can know anything and speak of natural effects, without having seen the Latin books of the philosophers? Such a pro-

* *Souffleur* was a name given to an alchemist. I “have experience in nothing” of the matter, but imagine a theory, in suggesting that our phrase, “he may whistle for it,” used when a man cannot get what he is foolish in expecting, might possibly be traced up to the bellows of the alchemist.

position is in my case apposite, because by experiment I prove in several places that the theory of several philosophers is false, even of the most renowned and the most ancient, as any one may see and hear in less than two hours, provided that he will take the trouble to come and see my cabinet, in which may be seen wonderful things that are put there for witness and proof of my writings, arranged in order, or by stages, with certain writings under them, in order that every one may be able to instruct himself: being able to assure you (reader) that in very few hours, that is to say in the first day, you will learn more of natural philosophy in as far as it concerns the subjects treated in this book, than you could learn in fifty years by reading the theories and opinions of the ancient philosophers. Some enemies of science mock at astrologers and say, Where is the ladder by which they got up to heaven to find out the situation of the stars? But in this place I am exempt from that kind of ridicule; because in the proof of my written arguments I content the sight, the hearing and the touch: for which reason the calumniators will have no ground of their own in my case: as you will find when you shall come to see me in my little academy. Fare thou well."

These addresses formed the only prefatory matter to the book, which appeared without any of the usual commendatory verses: such vanities old Bernard had outlived. As the volume was passing through the press, however, a new thought suggested itself to the earnest-

minded author, and a short notice was appended to the other prefatory matter.

“ Since the book has been put to press,” adds Bernard, “ several people have requested me to read it to them, in order that they might have more certain understanding of difficult parts, which has induced me to write what follows: to wit, that if after the printing of the said book, there should be any one who does not content himself with having seen the things privately in writing, and desires to have an ample interpretation, let him repair to the printer, and he will tell him the place of my abode, in which I shall be found at all times ready to read and demonstrate the things herein contained.

“ Also, if any one should wish to establish a fountain, according to the design here given, and should be unable to understand clearly the meaning of the author, I will make a model for him by which he will easily understand what is here written.”

It is the same Bernard still. The uncaged energy with which the Potter, in his old age, labours for the interests of science, and the beautiful simplicity of mind with which he follows the directest path to a good object, remind us of the struggles of his manhood, and the eccentricity that made him acceptable meat for gossips when he hungered and grew lean over his work in Saintes.

CHAPTER VII.

DOCTRINES OF PALISSY: WATER AND WATER-WORKS
—MEDICINAL AND THERMAL SPRINGS—VOLCANIC
ACTION.

“THEORY” commences: “I found myself, some time ago (while wandering over the fields), very thirsty, and passing by some village I asked where I could meet with a good spring, in order to refresh myself; to which it was replied to me that there was no spring in that place, and that their wells were all exhausted, on account of the drought, and that there was nothing but a little muddy water at the bottom of the said wells. This caused me much vexation, and I was greatly surprised at the distress suffered by the inhabitants of this village through the want of water. And then there came to my memory a promise made by you long since, to show me in what way fountains might be established in places the most destitute of water. Therefore now since we are at leisure, I beg you (according to your promise) to instruct me in this

science which will be extremely useful to me : for I have an inheritance in which there are no springs, and there is nothing in it but a well liable to become dry like others."

To this invitation "Practice" replies ; and thus in a natural and easy way Palissy commences the enunciation of his views concerning different kinds of water, and the theory of springs.

He commences with a statement of objections against wells and pumps. We shall find him at the close of his dialogue advocating surface-drainage, and he begins, therefore, with comments upon well-water extremely similar to those which have been supplied to us within the last two or three years by our own Sanitary Board. Although in France, three centuries ago, wells were sunk clumsily, skilled workmen were rare, and pumps for deep wells were expensive, unwieldy, and extremely liable to disrepair, it must be confessed, that in paving the way for his own suggestions of an improved water-supply, Palissy rather overstates the case against existing methods.

Very costly works had been suggested to many princes and seigneurs for water-supply on a large scale by the agency of pumps ; and while he wrote, Palissy tells us, there was a little mania for such works, which very often absolutely failed, and always cost much money in repairs. We know now what precaution is required to prevent the clogging with sand or mud of the pipes that dip into a stream ; we know the difficulty that would be occasioned by the passages into them of air ; and we know how to

adapt the strength of the material to the hydrostatic pressure, and to adjust the bore and inclination of the whole system of water-pipes with mathematical exactness. Such calculations in or about the year 1850 form part of the duties of a civil engineer. To the contemporaries of Bernard Palissy, in the year 1580, such calculations were almost unknown.

The rude machinery that had been long employed in mines and ships was insufficiently adapted to new purposes. The friction upon water-wheels and tubes and suckers, in the case of all works upon a large scale, tended rapidly to the destruction of the apparatus. Mud and air would and did get into the pipes, and water-works of this nature were in consequence most costly undertakings. This Bernard saw and pointed out. The wretched state of industrial art in his own day being remembered—for the war in Italy, and afterwards the civil wars, had almost extinguished the race of enterprising artisans—we shall not be surprised if we find Bernard speaking as though pumps were to remain unimproved. He admires their use in mines, and values them for the additional safety they secure to ships. “I do not despise the invention of pumps,” he says, “but on the contrary I esteem it much; and whoever invented them” (it is said to have been Ctesibius, about 120 years B.C.), “did so after great consideration, and not without reflecting upon the anatomy of the human body. * * * And while I esteem the invention of the said pumps to be marvellously great,

and know that they will be at all times in request and useful both to ships and mines, yet so it is that for domestic wells they will be little in request; because there is always need of workmen in the neighbourhood, on account of fractures occasioned by different kinds of violence, and there are very few men who know how to repair them."

The foresight of Palissy certainly failed him in this portion of his subject. Domestic pumps continued to be alike clumsy and costly for more than a century after the year 1580, and of course, also, they did not extensively supplant the ordinary springs and draw-wells. In our own day we find them in use, but threatened with banishment from many towns, if blue books can prevail on urban populations to procure for themselves surface-water, and supply it to all houses at high pressure.

Palissy had a little malice in his composition. He evidently is not fond of the queen's architect, Philibert Delorme, who was associated with Bullant in the founding of the Tuileries, and took the lead, by virtue of superior genius, superior wealth, and more assuming ways. In reputation as an architect, Delorme yields to no French contemporary except Pierre Lescot, and takes a questionable precedence of Bullant. In practice he was probably the most prosperous architect of his own day. He governed the works of Catherine of Medicis at the Tuileries, at Anet, Saint Maur des Fossés, St. Cloud, and elsewhere. As Palissy worked at the gardens of the

Tuileries, and Delorme had a taste for garden architecture and original ideas on water-works, the Potter doubtless found himself subject to more interference than he liked, and resented Delorme's affectations of superiority. Delorme had met at first with serious mishaps in the watering of the famous Garden of Meudon, for the Cardinal Guise, Charles of Lorraine. His works, modified subsequently by Mansard and Le Nôtre, have made Meudon famous. It is to this enterprise that Palissy alludes in dwelling with malicious pleasure on Delorme's early mischances. "I know," he says, "that there has been a French architect in our time, who almost caused himself to be styled the God of Masons or of Architects; and inasmuch as he possessed twenty thousand in benefices, and knew how to make his way at court"—(he had been councillor and almoner to Charles IX., was abbot of St. Eloy les Noyon, of St. Serge by Angers, &c.)—"it happened that he boasted sometimes of being able to make water rise as high as it pleased him by means of pumps or machines, and by such self-assertion he induced a great lord to wish to raise the water of a river to a high garden which he had near the said river. He commanded that money should be paid over to meet the cost: which being accorded, the said architect caused to be made a great number of leaden pipes, and certain wheels in the river, to cause the movement of the mallets by which the suckers are set in action. But when this came to raise the water, there was not a pipe that did not burst, because of the violence of the air

enclosed with the water ; then having seen that the lead was too weak, the said architect commanded that with all diligence there should be cast pipes of brass, upon which work were employed a great number of foundrymen, in such wise that the expense of these things was so great, that it has been found by the papers of the controllers to have amounted to forty thousand francs, although the result was not worth anything."

Soon afterwards, in the same essay, Palissy finds another occasion to play critic against the Masons' God. "If Monsieur the queen's architect, who had visited Italy, and who had gained authority and command over all the artisans of the said lady" (all the artisans, and Palissy was one of them), "had only had ever so little natural philosophy, without any letters, he would have caused some wall or arcade to be made across the valley of St. Cloud, and thereby have brought his water gently from the bridge of St. Cloud to the park walls," &c.

In the works of Ronsard there is an anecdote concerning Philibert Delorme which illustrates the character of the great architect, and the temper of authority and command which ill became a man of genius, and before which the spirit of Master Bernard of the Tuileries was certainly not likely to submit. Ronsard one day was about to pass into the Tuileries in the suite of the queen-mother, when Delorme caused the door to be shut in his face. The Sieur de Sarlan caused it to be immediately opened to him, and Ronsard, entering, took up a piece of chalk, and wrote in

capitals upon the door, before the face of the church pluralist and architect, FORT REVERENT HABE. Habe, equivalent to Hâve, was a term of reproach, meaning a meagre person, "a wrinkled or scraggy old woman," as the dictionary has it, and the term probably applied with some force to the person of the architect, while the Very Reverend might be applied sarcastically to his clerical revenues, or to his overbearing claim on reverence. It will have been observed that Palissy speaks of the architect always as "commanding." Delorme, offended by Ronsard's inscription, brought his complaint before the queen ; but the offender, being summoned to answer for himself, informed her majesty that what he had written was not a scurrilous insult, but a delicate reproof. "Fort Reverent Habe are not French words, madame, but the commencement of a verse out of Ausonius: Fortunam reverenter habe—Be modest in prosperity—words profitable to be read by all men to whom fortune has been kind."

Palissy then having stated the mechanical objection against pumps, and taken occasion thereby to ease his mind by administering a passing rebuke or two to the proud Philibert Delorme, proceeds to discuss the different qualities of well-water. He points out that the water in some wells is better than that in others, and that the difference is owing to the differences in the soil through which the rain-water has percolated. He points out that wells in towns become injured by the filth that passes

through the soil. He speaks of the poisoning of wells in seasons of strife—a popular error which subsisted long after his time, and was supported by the evidence of grave historians. Palissy himself refers for authority to the historical memoir of Jean Sleidan. He relates that “during the war which the Emperor Charles V. waged against the Protestants, several wells and still waters were poisoned, and that a man was taken who confessed to having come from a far country expressly for the doing of this wicked deed, and this by the command of two great personages, whom I will not name.” He then without comment relates an instance of the death of several workmen who were sent down to repair a well, and tells a legend of a physician, who, being in want of money, drugged all the wells in his own town, and caused people to come to him with stomach-aches, and be cured, to their great joy, by a precious medicine, which was, in fact, good wine, they being at the same time forbidden to drink any water.

Against shallow pool-water, Bernard produces all the obvious objections. Against the water gathered in deep pools for domestic use, according to a practice prevalent in Normandy and elsewhere, Palissy objects only that as the water stagnates, it is apt after a time to put on a green coat, and to become unwholesome. Closed cisterns he considers preferable. Being about then to pass from still waters to fountains, he is warned by “Theory” that

to find fault with fountains is to find fault with the works of God.

“ You reprove me before I speak,” he answers. “ I know well that the sources of natural fountains are made by the hand of God; but that is no reason why I should not speak of the faults committed in conducting the waters from their natural sources: inasmuch as they who conduct the springs through pipes, channels, and aqueducts from the source to the houses, towns, and castles, may commit great faults, that is the subject upon which I mean to speak. * * * If you will contemplate a little the vestiges and antiquities of our predecessors, you will find a great number of ancient pyramids constructed as well by the Roman emperors as by the kings of Egypt; you will find also a great number of triumphal arches constructed in the time of the Cæsars, as you have seen two triumphal arches in the town of Xaintes, which, though they have been founded in the waters,* yet are still erect; and one cannot deny that they are of the time of the Cæsars, as the writing that is upon them witnesses. I have begun with speaking about this, in order to show you that although our predecessors incurred also great expense for their aqueducts, pipes, and the beauty of their fountains, yet so it is, that you could not show me a single ancient fountain as you can show the buildings of triumphal arches, palaces, and amphitheatres: and it must not on that account be thought

* Compare vol. i., page 105.

that our ancient predecessors did not study and spend great cost as well on fountains as on other buildings, and in proof that they did so, some one has assured me that he has seen in Italy aqueducts of fifty leagues in length (a most incredible thing) which were made for bringing water out of one place to another. Our ancients show by that how well they knew that waters brought by aqueducts come more at their ease than those which come enclosed in pipes. It is certain that at Xaintes (which is an ancient town, in which are still found the remains of an amphitheatre and many antiquities, likewise a great quantity of coins of the emperors) there was an aqueduct, of which the vestiges remain, by which they caused the water to come from a distance of two great leagues from the said town, and nevertheless, its ruin has been so complete, that there are now few men who understand the vestiges of the above-named aqueduct. That is why I have said, that although the ancients used better material than the moderns, and although they cared less about cost, yet there are no ancient fountains to be found. I do not mean to say that we have lost their water sources: for it is well known that the ancient spring of the town of Xaintes is still on the spot in which it formerly existed: to see which the Chancellor l'Hôpital turned out of his way (returning from the journey to Bayonne) to admire the excellence of the said spring. There are still in certain valleys, between the town and the spring, some arcades over which the waters of the said

spring were made to pass: the meaning of the said arcades being however unknown to the common people. And if you wish to know why I place before your eyes these arcades in the valleys, it is to show to you the ignorance of the moderns."

Palissy proceeds accordingly to a comparison between these aqueducts and the water-pipes of about two inches diameter running underground up and down hill, always containing enclosed air, frequently bursting, often clogged by root-fibres, which penetrate between the joints, or by the deposit of stony matter from the water. He refers to the famous Pont de Gard, in Languedoc, which was made to span the valley between two mountains for the purpose of conducting water to the town of Nîmes. He admires the grand system of water-supply for which Rome is celebrated, and then touches upon the failure of Delorme in the water-works which he had undertaken at St. Cloud.

Palissy then teaches the reason of the great differences that exist in the character and quality of springs. It is impossible, he says, that water can pass through the earth without taking up from it various salts that it contains; and as there are different kinds of earth in which the salts vary both as to quantity and kind, these differences will be represented in the waters. "I have never," he says, "seen a stranger come into the region of Bigorre to dwell there who did not take soon afterwards a fever: one sees in the said region a great number of men and women who have the throat as large as two fists; and it is a cer-

tain thing that the waters have caused their malady, whether it be by their coldness or by the minerals through which they have passed."

The alternative of coldness in the water as a cause of goître Bernard adopts from Pliny,* whose natural history he quotes upon another point in the succeeding sentence. The suggestion that it is caused by matter taken from the earth and held by the water in suspension or solution, is the theory of Palissy himself, and doubtless the correct one. He adduces goître as an example of the effect of waters altered in quality "by the minerals through which they have passed." The old belief that goître, Derbyshire-neck, or, as physicians call it, bronchocele, is produced by the use of snow-water, although not yet by any means dead, is yielding before a theory which Palissy was certainly the first man to suggest. Our own phrase for the disease—Derbyshire-neck—discredits the old notion very much. There is little snow-water in Derbyshire, and in the south of England, where we find goître common. In Scotland, where there is snow, goître is a rare complaint. In Greenland, where all the water in use is snow-water, there is no goître at all, and there is a great deal of goître in Sumatra, where snow is never to be seen. In Switzerland there is a good deal of the disease, but they who live at the greatest height upon the mountains, and depend most directly on the snow and the glaciers, are

* Lib. ii., cap. 37. Palissy read in translations Pliny, Plutarch, and Vitruvius, all of whom he quotes upon occasion.

precisely the people among whom it is not found. An able Swiss physician* tells us: "Bronchocele appears to me to be produced by certain waters which issue from the hollows of rocks, trickle along the cliffs of mountains, or spring from the bowels of the earth. That this is the case I may instance some fountains in my own country, the use of whose waters will in eight or ten days produce or augment goitrous swellings. Such of the inhabitants of my village (Hameau de Thuet) as avoid these waters are free from goître and cretinism." Another authority of equal weight informs us that the pump-water of the lower streets of Geneva brings on goître very speedily.

Palissy proceeds further to prove the existence in the earth of salts and other matters, by the instances of petroleum, of bitumen, of sulphuretted waters, and of waters tinted with the hue that belongs to the rocks from which they have issued. Theory declares himself to be contented with his arguments, and wishes to understand the cause of thermal springs. Palissy immediately, with a wonderful correctness of perception, ascribes these phenomena to the same cause which produces earthquakes and volcanoes.

The theory of the earth, by which it is regarded as a molten mass, cooling at the surface while it flies through space, was born long after the time of Palissy, and still exists. The most philosophic geologist of our own day has shown that the central heat required according to the

* Dr. Bally, quoted in Forbes's *Cyclopædia of Practical Medicine*. The next writer is Dr. Coindet, quoted through the same authority.

theory is incompatible with the solidity of the surface, and suggests the much more rational doctrine that "instead of an original central heat, we may perhaps refer the heat of the interior to chemical changes constantly going on in the earth's crust; for the general effect of chemical combination is the evolution of heat and electricity, which in their turn become sources of new chemical changes."*

Palissy knew nothing of the heat generated by chemical combination, and was compelled to seek through his experience for some first cause of internal heat that lay within his comprehension. He suggested as a cause the falling or friction of one rock upon another in the neighbourhood of a bed of sulphur, coal, peat, or bitumen; thus a spark might be communicated to inflammable material, and a combustion would in this way be set up that would continue while it found material to feed upon. The water that passes in the neighbourhood of these beds would become heated, but not without producing great disturbance, for to the meeting underground of water, air, and fire—in truth, to the expansive force of steam and gases, although he was not able to grasp clearly the whole of his idea—Palissy ascribed all earthquakes. His doctrine on earthquakes and volcanoes—of which the true theory is at this hour open to conjecture—is the best that human genius could have suggested in the year 1580. Probably the sudden expansion of gases that had been compressed into a liquid form plays a large part in producing the volcanic

* Lyell's Principles of Geology.

phenomena. Certainly “water and fire,” as Palissy would say, go to the making of a volcano, if we may draw any conclusion from the fact that almost every existing volcano is in the neighbourhood of an existing coast. The few exceptions to this rule are in the New World, Jorullo, Popocatepetl, and Fragua; respectively not more than 80, 132, and 156 geographical miles from the sea; and the volcanoes of the Celestial mountains in Central Asia. These last are situated in the basin of the continental streams where rivers flow into a multitude of lakes instead of to the ocean.

How wonderfully all the speculations of Palissy upon this subject struck into the right path towards truth, and how far he had gone beyond the speculations of his own time, it is due to his memory to understand. In the year 1850, one of the best works devoted to the study of natural history* contained the statement following:

“The real cause of volcanic phenomena is as yet, in a great measure, involved in obscurity. Two theories have been proposed to account for the phenomena: one, that they are due to the expansion and oscillation of melted matter in the earth’s interior; the other (that proposed by Sir H. Davy), that the elementary earths and alkalis in their metallic states, coming in contact with water infiltrated through fissures, immediately commence a chemical action, and hence arises in consequence a great expansion of volume; whilst the expansive force of vapour or gas,

* Johnston’s *Physical Atlas*.

produced during the process of decomposition, increases the tension of the liquefied substance, until it acquires sufficient strength to overcome the resistance of the superincumbent mass, upheaves the solid earth, and finds for itself a permanent outlet. The mineral composition formed from the lava emitted, differs according to the nature of the materials of which the lava is formed, the degree of heat in the interior, the rate at which the molten mass is cooled down, and the amount of pressure to which it has been subjected."

In the year 1580 Palissy wrote the following opinion:

"Earthquakes cannot be engendered unless in the first place fire, water and air do come together. Some historians relate that in certain countries there are earthquakes which have lasted for the space of two years (a thing very easy to believe), and that can happen by no other means than the above named. It is necessary that before the earth can tremble there should be a great quantity of one of those four matters (sulphur, coal, peat or bitumen) in combustion, and being in combustion that it should have found in its way some receptacles of water in the rocks, and that the heat should be so great as to have power to cause the boiling of the waters enclosed in the rocks, and then from the fire the waters and the enclosed air there will be engendered a vapour that will come to lift by its power rocks, lands and houses that shall be upon them. And inasmuch as the violence of the fire, the water and the air, will be unable to cast to the one side or

the other so great a mass, it will cause it to quake, and in quaking it will produce some subtle openings, which will give a little air, and by such means the violence by which otherwise all would have been overthrown is pacified; for if the three matters which cause the trembling did not get a little air during their action, there is no mountain so heavy that it could not be overthrown, as it has occurred in several places that mountains have by earthquakes been converted into valleys, and valleys into mountains by the same action.—Would you have me tell you the philosophic book in which I have learned these secrets? It has been nothing but a cauldron half full of water, in the boiling of which when the water was urged a little briskly by the fire at the bottom of the cauldron, it rose until it flowed over the said cauldron: and that could only be because there was some wind engendered" (wind, in the philosophy of Palissy, was air stirred by the removal of a compressing force) "in the water by virtue of the fire: inasmuch as the cauldron was but half full of water when it was cold, and was full when it was hot."

Contrast now this remarkable passage, in which the uneducated Potter almost seizes half a dozen of the mysteries of nature, with the reasonings upon nature prevalent in his own time. We will pass even on into the next century, and take for our example no less a philosopher than Kepler, who published a work in 1619 on the Harmonics of the World. His opinions are thus epito-

mised by Cuvier:* “The globe possesses living faculties. A process of assimilation goes on in it as well as in animated bodies. Every particle of it is alive. It possesses instinct and volition even to the most elementary of its molecules, which attract and repel each other according to sympathies and antipathies. Each kind of mineral substance is capable of converting immense masses of matter into its own peculiar nature, as we convert our aliment into flesh and blood. The mountains are the respiratory organs of the globe, and the schists its organs of secretion. By the latter it decomposes the waters of the sea, in order to produce volcanic eruptions. The veins in strata are caries or abscesses of the mineral kingdom, and the metals are products of rottenness and disease, to which it is owing that almost all of them have so bad a smell.” Even after the world had passed into the eighteenth century, science was in many respects far behind the point that had been reached by Palissy. In 1708, Scheuchzer is found maintaining, in the *Mémoires* of the Academy, that God lifted up the mountains in order to drain off the waters of the deluge, and that they were made strong in order that they might stand properly upright.

Palissy then, having assigned to thermal springs their true position in connexion with volcanic action, proceeds to discuss their medicinal use. He explains that the

* Essay on the Theory of the Earth.

medicinal use of springs will vary according to the medicinal matters which they may have taken up from the earth; that some may be useful in one case, some in another; but he ridicules all extravagant expectation. A practical physician of the present day could not speak more soberly or sensibly upon the subject, although long after the days of Palissy the most ludicrous credulity was prevalent, even among the learned, upon the subject of the virtue that resides in springs. A reference to the early records of our Royal Society, contained in the first numbers of the Philosophical Transactions—dating nearly a hundred years after the time of Palissy—will give us plenty of grave details on baths that possessed the virtue of conferring health or beauty. One writer* considers negroes to have been blackened by subterranean steams.

Palissy points out that these subterranean steams and thermal springs which issue from the earth, act as safety-valves, and tend to abate the violence and frequency of earthquakes. “There is no violence,” he says, “or quaking where the fire can take breath by little holes, though they be as in some places they are seen, no bigger than worm holes. In the same way it happens with that which heats the water of the baths, because it takes

* Philosophical Transactions, No. 57 (1669). He says: “Subterranean steames, perhaps, may be of so many kinds and mixtures as to cause much of the great diversities of metals, minerals, earths, and soyles; * * yea, of the furies, hayres, wool, and other little varieties in animals (particularly in sheep)—I will not except the *Ethiopic* hue and humors of men in distant climates.”

breath by the channel of the said waters." The best comment upon this opinion will be a passage from the best modern work upon the subject of which Palissy is treating.* "Steam of high temperature," says Sir Charles Lyell, "has continued, for more than twenty centuries, to issue from the 'stufas,' as the Italians call them; thermal springs abound not only in regions of earthquakes, but are found in almost all countries, however distant from active vents. It is probably to this unceasing discharge of subterranean heat that we owe the general tranquillity of the globe; and the occasional convulsions that occur may arise from the temporary stoppage of the channels by which heat is transmitted to the surface."

Up to this point, the doctrines of Palissy contained in the present treatise display a philosophy that is entitled to our high respect. He is, upon all subjects that are connected with a study of nature, a century or two in advance of the men of his own time. The opinions narrated in the present chapter have, however, chiefly represented truths almost attained, rather than regions of knowledge absolutely conquered. In the next and most interesting portion of the essay, we shall find Palissy teaching the true doctrine of springs, propounding for the first time to the world a great cosmical idea with absolute correctness, and proving his position by a train of the best and purest philosophic reasoning. The reasoning of the artisan, written in unassuming French, fell

* Lyell's Principles of Geology.

among pedants, and produced no fruit. The practical application of his theory to a system of water-supply, by surface-drainage, forms the concluding portion and main object of his essay. He had prefaced it, he says, with an exposition of the views of nature upon which it was founded. "Because it is impossible to imitate Nature in any point whatever, if we have not first contemplated the effects she produces, taking her for guide and exemplar, since there is nothing in the world wherein perfection can be found, excepting in the works of its Creator. Taking example then by those beautiful formularies which He has left to us, we come to the imitation of the same."

Bernard's doctrine on this head, as we shall presently perceive, does not form one of his least important claims upon the recollection of posterity.

CHAPTER VIII.

DOCTRINES OF PALISSY: THE FOUNTAIN AND THE
FLOOD.

SPRINGS were supposed, long after the time of Palissy, to be supplied by secret conduits from the sea, which carried sea-water to reservoirs in mountains. The water in the reservoirs being then vaporized, ascended and condensed upon the cavern-walls to trickle through the crevices of rock, pure and distilled, as water that has been distilled from an alembic. Descartes is sometimes called the author of this theory: he certainly supported it; but that it was not of his invention will be obvious enough from the fact that we find Palissy disproving the same notion as an opinion common among the philosophers in 1580, sixteen years before Descartes was born.

In the "New Dictionary of Natural History," an encyclopædia of existing knowledge on that subject, published in very many volumes between the years 1816 and 1830, M. Patrin writes the article on springs. After narrating

“the most popular theory, that of Descartes,” he declares it to be an error. Springs, he says, are caused by condensation of vapour, chiefly in the night, upon the tops of mountains. They are produced by the trickling down of the water in a way that corresponds entirely with the trickling down of drops that have condensed on cold glass-bottles. So little notice did the poor man speaking simple French obtain among the Latinist philosophers of his own day; so little was philosophy cherished by the French themselves during that age of civil discord, that the theory of springs, expounded perfectly and very beautifully by Master Bernard of the Tuileries in the year 1580, perished of neglect; and in a work of great pretension published by French naturalists a quarter of a thousand years after the demonstrations in the cabinet of Palissy, the true theory of springs was still unknown.

By his immediate hearers Bernard’s doctrine was accepted; and a few men, who read his books before they passed from obscure fame into unmerited oblivion, made practical use of his suggestions.* But by the body of his countrymen, in his own day, the character of Palissy as a philosopher was not appreciated. He was one or two—now and then even three—centuries in advance of his own time, so that his own time had not ears to hear him with. Moreover, France was busy upon other matters, and had

* Fontenelle, in his eulogy on Couplet, gives an instance in the case of Coulanges-la-Vineuse. Some details will be found among the notes to the Appendix.

no leisure to think for half a minute about springs of water, while there prevailed a more engrossing interest in pools of blood.

"When for a long time," says Bernard, "I had closely considered the cause of the sources of natural fountains and the place whence they might proceed, at length I became plainly assured that they could proceed from or be engendered by nothing but the rains."

THEORY replies: "After having heard your opinion I am compelled to say that you are a great fool. Do you think me so ignorant that I should put more faith in what you say than in so large a number of philosophers who tell us that all waters come from the sea and return thither? There are none even to the old men who do not hold this language, and from all time we have all believed it. It is a great presumption in you to wish to make us believe a doctrine altogether new, as if you were the cleverest philosopher.

"PRACTICE.—If I were not well assured in my opinion, you would put me to great shame: but I am not alarmed at your abuse or your fine language; for I am quite certain that I shall win against you and against all those who are of your opinion, though they be Aristotle and the best philosophers that ever lived; for I am quite assured that my opinion is trustworthy.

"THEORY.—Let us come then to the proof. Give me some reasons by which I may know that there is some likelihood in your opinion.

“PRACTICE. My reason is this : it is that God has fixed the borders of the sea, beyond which it shall not transgress: as it is written in the Prophets. In effect we see this to be true, for inasmuch as the sea is in several places higher than the earth, while, at any rate, it has some height in the middle; yet at the extremities it keeps within measure by the command of God, in order that it may not come to submerge the earth.*

“We have very good witnesses of these things, and among the works of God that is greatly marvellous, for if you had taken heed to the terrible effects of the sea, you would say that it appears to come from twenty-four hours to twenty-four hours twice to assail the earth, desiring that it should be ruined and submerged. And its coming is like to a great army which might come against the earth to combat it : and its front, like the front of battle, breaks impetuously against the rocks and limits of the earth, bringing a noise with it so furious that it seems bent upon destroying all. And because there are certain channels on the borders of the sea in the surrounding land, some have built mills on the said channels, to which there

* Palissy refers only to the height of the waves. It appears afterwards that he fully understands the principle of water finding its own level. It is true that there is land below the sea level. The Dead Sea is 1300 feet below the level of the Mediterranean, and all the land about the Caspian is depressed. The level of the sea, also, in mediterranean seas and gulfs, is affected by local circumstances, and does not at all times correspond with the level of the open water. The direction of the wind, for example, at certain seasons of the year, raises the level of the Red Sea towards Suez.

have been made several gates for allowing sea-water to come into the channel at the rising of the tide: in order that whilst coming it may cause the said mills to grind, and when it is about to enter the channels, finding the gate closed, and having no servant fitter than itself, it opens the gate, and causes the mill to grind for it a welcome. And when it wishes to retire, like a good servant, it shuts for itself the door of the channel, in order to leave it full of water, which water is made afterwards to pass out by a narrow opening, so that at all times it may cause the mill to grind. And if it were as you say, according to the opinion of the philosophers, that the sources of springs came from the sea, it must needs follow that the waters would be salt, like those of the sea, and, what is more, it would follow that the sea must be higher than the highest mountains, which is not the case.

“ *Item.* As it happens that the water which has entered the channels and causes the mills to grind, and which conveys the vessels into many and divers channels to load salt, wood, and other things found on the borders of the sea, is obedient in following the main army of the sea, which has been skirmishing against the earth. In like case, I say that it must needs be that the springs, rivers, and brooks should return with them: and they must needs also be dried up during the absence of the sea, even as the channels are filled by the coming of the tide and dry up in its absence. See now whether your good philosophers have any argument sufficient for the overthrow of mine.

It is a very certain thing, that when the sea has retired, it discloses in many places more than two full leagues of sand, on which we may walk dry-foot; and we must believe that when it is retreating, fishes retreat with it. There are some kinds of shell-fish, as mussels, cockles, oysters, and many kinds which are made in the form of a snail, which do not deign to follow the sea, but trusting in their armour, they that have but one shell fasten themselves to the rocks, and the others, that have two, remain upon the sand. Some kinds of these, which are formed like a knife-blade, being about half a foot long, have taken the precaution to conceal themselves within the sand, and then the fishermen go out to seek for them. It is a wonderful thing,* that the oysters, being brought to a distance of ten or twelve leagues from the sea, perceive the hour in which the returning tide approaches the spot on which they had their abode, and open of themselves to receive aliment from the sea as though it still were near them. And because they have this habit, the crab, knowing well that they will present themselves with open doors when the tide shall return into their neighbourhood, lurks near their habitations, and when the oyster shall have parted its two shells, the said crab, to deceive the oyster, takes a little stone, which it puts between the two shells, in order that they may not close, and this done, he is able to make his repast

* If true.

upon the said oyster.* But the mice have not found out the reason why the oyster has two shells: for it has happened in many places distant from the sea, when the oysters felt the hour of the tide and opened as I have before said, the mice finding them open would come to eat them, and the oyster feeling the pain of the bite would close firmly its shells, and in this way many mice have been taken: for they had not put stones between the two shells, like the crab. As for the large fish, the fishers of Xaintonge have invented a good way of deceiving them: for they have planted upon certain spots in the sea many large, thick poles, and in these they have fixed pulleys to which they attach the cords of their nets, and when the sea has retired, they let their nets lie on the sand, leaving

* Mr. Swainson (on the Habits and Instincts of Animals) refuses to believe this of the ourang-outang, to whom the same device has been for centuries attributed. Of course it is not to be believed of crabs. From very early times there have been natural history fables current in which the oyster, or some bivalve shell-fish, plays the part of hero. What Palissy says in the text concerning mice has been said often of foxes and racoons. In Dr. George Johnstone's Introduction to Conchology, a book in the right naturalist spirit, full of cheerfulness and unaffected learning, there is reprinted an extract from the *Berwick Advertiser* of Jan. 15, 1848, which shows that the old stories have not yet lost their vitality. Thus runs the narrative:—"The *Inverness Courier* states that immense mussels, some of which are almost as large as a man's shoe, are found at Ardinisgain, on Loch Carron. A few days since, one of these mussels was left uncovered by a spring ebb-tide, and was induced by the rays of the sun to open itself. While thus open it was observed by a prowling fox, which thrust its tongue into the shell in the hope of securing the fish; but the mussel instantly closed on the tongue of the fox, which was retained a prisoner until drowned by the rising tide."

however the cord to which they are attached holding by its two ends to the said pulleys. And when the sea returns the fishes come with it and seek pasture on one side and the other, giving themselves no concern about the nets because they swim above them: and when the fishermen see that the tide is on the point of turning, they raise their nets to the height of the water, and they being attached to the said poles, the bottom of the said nets is held down by several stones and lumps of lead which keep them firm below. The mariners having stretched their nets and raised them in this way, wait until the tide shall have gone down, and as the tide recedes the fishes seek to follow as they are accustomed: but they find themselves deceived inasmuch as the nets stop them, and by this means they are taken by the fishermen after the tide is down.

“ And in order not to wander from our purpose, I will give you another illustration. It must be held for a certain fact that the sea is as high in summer as in winter, and if I were to say more I should not speak untruly, because the marshes are highest during the full moon of the month of March and that of the month of July: at which times it covers more lands in the maritime parts of the Xaintonic islands than at any other season. If then it were true that the sources of springs come from the sea, how could they be dried up in summer, since there is not at that time less sea than in the winter? take notice of this proposition, and you will perceive that if the sea nourished

with her teats the fountains of the universe,* they never could be dry in the months of July, August and September, at which times an infinite number of wells become exhausted. I must needs again dispute against you and your Latin philosophers, because you find nothing good if it does not come from the Latins. I tell you for a general and certain rule, that waters never can mount higher than the sources from which they proceed. Do you not know well that there are more fountains on the hills than in the valleys: and even if it were true that the sea is as high as the highest mountain, still it is impossible that fountains on the hills could proceed from the great flood of the sea: and the reason is, because in bringing water from a higher place to make it mount up to another place equally high, it is essential that the channel by which the water passes, should be so well closed that nothing can escape: otherwise the water having descended into the valley never would remount into high places, but would escape by the first hole that it could find. I will therefore at once conclude that if the sea were as high as the mountains, its waters could not arrive at the high parts of the mountains, whence the springs proceed. For the earth is full in many places of holes, cracks and gulfs, by which the water that might flow from the sea would escape into the plain, by the first holes, springs or gulfs it could find, and before it rose to the summit of the mountains all the plains would

* "*Si la mer allaitoit de ses tetines les fontaines de l'univers.*" Palissy plays upon a word, perhaps.

be engulfed and covered with water: and that the earth is so pierced, the continual fires which proceed from the abysses bring with them sulphurous vapours that bear testimony, and but one hole would suffice, or a single crack, for the submersion of all the plains.”

To the statement that if spring-water came from the sea it would be salt, Theory opposes the general belief that it is purified in passing through the veins of earth. Palissy, on the contrary, replies: “It is much more to be believed that the salt of the sea comes from the earth, having been carried thither as well by the current of rivers which empty themselves therein, as by the impetuous waves which violently strike against the rocks and salt-containing earths. For you should note that in many countries there are rocks of salt. There is some author who has written in his works that there is a country in which the houses are built of blocks of salt; which being considered, you must seek more legitimate arguments if you would have me believe that the waters of springs and rivers proceed from the sea.

“THEORY.—And I pray you then to make me understand your own opinion, and whence you think that they can come if they do not come from the sea.

“PRACTICE.—You must believe firmly that all the waters that are, shall be, and have been, were created in the beginning of the world: And God, wishing to leave nothing in idleness, commands them to go to and fro and be productive. This they do without ceasing, as I have

told you the sea does not cease to go and come. In like manner the rain-water that falls in winter remounts in summer to return again in winter, and the waters and the heating of the sun and the dryness of the winds striking against the earth raises a large quantity of water, which being collected in the air and formed into clouds are sent out to all corners of heaven as the heralds of the Lord. And the winds moving the said vapours, the waters fall again upon all parts of the earth, and when it is God's pleasure that the clouds (which are nothing else than stores of water) shall dissolve, the said vapours are converted into rains which fall upon the earth.

“THEORY.—Verily I find out now that you are a great liar, and if it were true that sea-water could be raised up into the air and fall afterwards upon the earth, it would be salt rain, so there you are caught by your own argument.

“PRACTICE.—That is very badly theorised on your part: do you think to take me by surprise upon this point? You are far out in your reckoning. If you had considered the manner in which common salt is made, you would never have put forward such an argument, and if the truth were as you say, no salt ever could be made. But you must understand that when the salt-makers have put the sea-water into their reservoirs, to cause it to congeal under the influence of the sun and wind, it never would congeal at all were it not that heat and wind raise the sweet water which is mingled with the salted. And when the sweet water has exhaled, the salt residue creams and con-

geals. In that way I prove that the clouds raised from sea-water do not contain salt. For if the sun and wind exhaled the salt-water from the sea, they could also exhale that which is used for salt-making, and then it would become impossible to make salt. There you have your arguments destroyed.

“THEORY.—And what shall become then of the opinion of so many philosophers that springs or rivers are engendered of a thick air, which proceeds from below the mountains, from certain caverns which are in the said mountains, and they say that this air becomes thick and some time afterwards dissolves and changes into water, which causes the source of springs and rivers?

“PRACTICE.—Do you understand fully what you say, that it is an air which thickens against the vaults of caverns, rocks, and that this dissolves into water? Grant that it is so: at any rate it seems to me that the manner of speaking is improper. You say that it is a thickened air, and then that it resolves itself into water. It would then be water similar to that of which I say that it is raised, of which we speak as clouds. * * I do not deny that the waters enclosed in the caverns and abysses of the mountains can exhale against the rocks and vaults which overhang the said abysses: but I deny that this is the whole cause of the origin of springs: it is so far from it, that if you consider how since the creation of the world there have continually proceeded from the said mountains springs, rivers and brooks, you will easily understand that it is impossible

that the said caverns could supply with water for a year, or for a month, as many rivers as flow daily down. * *

I do not deny that the watery vapours from the subterranean caverns may contain a large quantity of water: but it must necessarily have been placed and carried thither by the posts and messengers of God, that is to say, the winds, rains, storms and tempests, as it is written that they are the heralds of the justice of God. The waters, then, in caverns have been placed there by the rains engendered as well of waters that have risen from the sea as of those from the earth and from all humid things, in the drying of which their aqueous vapours are raised up on high to fall again. And thus the waters do not cease to ascend and descend; as the sun and the moon have in their action no repose, in like manner the waters never cease to labour in engendering and producing, going and coming as God gave to them commandment."

Palissy, having in the next place pointed out the hard texture of rocks and mountains, by virtue of which they serve as a skeleton under the softer earth, proceeds to the fuller elaboration of his views. They are quite accurate and philosophical; and never did a naturalist—unaffected and clear-sighted as most naturalists are—unfold the results of his observation with more exquisite simplicity.

"Having taken this consideration," Palissy says—he has been speaking of the hardness of the rocks—"into your memory, you can understand the reason why more springs and rivers proceed from the mountains than from the

remainder of the earth; which is no other thing than that the rocks and mountains retain the water from the rains, as they might be held by a brazen vessel. And the said water falling upon the said mountains over the earths and clefts, always descend, and are not stopped until they have found some spot grounded with stone or rock tolerably close-grained or condensed; and then they rest on such a bottom, and having found some channel or other opening, they peep out in fountains or in brooks and rivers according to the nature of the opening to the receptacles: and inasmuch as such a source cannot run contrary to its nature on the mountains, it descends into the valleys. And though the beginnings of the said sources coming from the mountains can scarcely be large, there comes to them aid from all parts, by which they are aggrandised and augmented: and especially from the lands or mountains which are to the right and left of the said sources. * *

“Let us come now to the reason why there are not water-sources in the lowlands and plains as in the mountains. You should understand that if all the earth were sandy, loose or spongy, like the cultivable lands, water-springs would not be found in any place whatever. For the rain-waters falling on the said earths would descend ever lower and lower towards the centre, and could never remain anywhere to make either wells or springs. The reason why water is found whether in wells or springs, is no other than because they have found a floor of stone or

argillaceous earth, which can hold water as well as stone; and if any one seeks water in sandy soils, he will not find it unless there be under the water some clay, stone, slate or mineral, by which the rain-water is stopped upon its passage through the earth. You may tell me that you have seen several springs proceeding out of sandy soils, or even out of sand itself: to which I answer, as above, that there is below some floor of stone, and that if the spring rises higher than the sand, it comes also from a higher ground."

Palissy, having thus demonstrated the cause of springs, is about to pass to the practical application of his knowledge, when he remembers one or two more arguments against the prevailing notion that fountains are supplied by channels from the sea. When the sea retires, he says, the channels emptied of sea are nevertheless not empty: they contain air. If, then, the channels be perfectly closed, how is the air to escape before the sea on its return, since the sea cannot pass in unless air passes out? "I have another singular illustration," he adds, "and it shall be the last on this head, which is, that in the districts and islands of Xaintonge bordering the sea, there are sundry small towns and villages with both sweet and salt wells; one may see clearly thereby that the wells of which the water is salt are supplied by the sea, and the wells of sweet water which are near the salt wells and also near the sea, are supplied by the runnings of the rain that come from inland parts. And what is more, and well to be noted,

there are sundry little islands environed and surrounded by the water of the sea, even some of them do not contain an acre of dry land, in which there exist wells of sweet water ; this makes it certain that such wells have not their course on the spot nor from the sea ; but from the flow of the rains traversing the earth until they have found a bottom, as I have already said.”*

The rest of the essay Palissy devotes to practical ideas; there occur, however, in the course of it two more philosophical suggestions. The difference in the size of springs he accounts for by the different distance which the waters may have flowed underground before they found an outlet, and by the greater or less extent of surface from which they

* The following passage from “Purchas his Pilgrimage” (1617), chap. xiii., § 3, further illustrates the opinions held in and after the time of Palissy on “the Originall of Fountaines; which both Scripture and reason, finding no other store sufficient, deriue from the sea, how they are from thence conueyed by secret channels and concauties vnder the earth, and by what workemen of Nature thus wrought into new and fresh waters. *Scaliger’s* experiment to proue the sea-water at the bottome fresh, by bottles filled there by cunning diuers or otherwise, is by *Patritius* his experience, as he saith, found false. And this freshnesse of the springs, notwithstanding their salt originall from the sea, may rather be ascribed to percolation and strayning through the narrow spungie passages of the earth, which makes them leaue behinde (as an exacted toll) their colour, thicknesse and saltnesse. Now how it should come to passe that they should spring out of the earth, being higher than the sea, yea, out of the highest mountaines, hath exercised the wits of phylosophers; some ascribing it to a sucking qualitie of the thirstie or spungie earth, some to the weight of the earth pressing and forcing the waters vpwards, some to the motion of the sea continually (as in a pumpe) thursting forwards water * * * And Mr. *Lidyate*, in a Treatise of the Originall of Springs, attributeth the same to under-earth fires.”

have received the drainage. The continuance of springs during the dry weather he explains by pointing out that the process of percolation through the earth is very gradual, and that the supply of one rainy season can thus set in before the supply left by the last season is quite exhausted.

On the subject of artificial fountains the doctrines of Palissy are in the highest degree ingenious. They are founded on a strict imitation of the ways of nature. The landlord who has on his estate a rock or mountain, should regulate its drainage by stopping up with masonry all crannies and wild outlets for the water, aiding here and there with a few artificial channels, and so managing that the rain passing through the surface-soil should all drain downward to one point at the base of the mountain. In order that the flow of water may not be impetuous or destructive in a time of heavy rain, Bernard suggests that its course through all larger channels should be obstructed by great stones, and that, as further barrier, as well as by way of profitable investment, trees should be planted over the whole mountain-side, and plants encouraged to grow under their shade. The water, collected at the base of the hill in a large reservoir, is to filtrate through a bed of sand into a second reservoir, and into a third if convenient, which will be the fountain, and which may be decorated at pleasure. The water is to be drawn by a tap, and a second tap over a small receptacle is to supply pure water when it is needed for the use of cattle. When the house is

somewhat far from the gathering-ground, the water is to be brought from the reservoir in pipes.

On level ground, where there is no mountain, each land-owner is taught how to make a gathering-ground for his own private use. Selecting a field, he is to give a slope to it of about four feet, by carrying the earth from one end to the other. He is then to pave his sloping field with stone, or slate, or clay, and at the bottom of it make his reservoir. But there is no need that he should make no other use of his gathering-ground. Having established the impervious base, planting trees in it, and leaving a little room around their stems, he may cover it with cultivable soil, and plant a field through which the rains will percolate, and under which they may run slowly down into the reservoir. From the reservoir, through a sand-filter to the fountain, the water will pass as in the other case.

In districts where there is no stone, nor clay, the inclined field may be made of beaten earth turfed over, and shaded from the sun by surrounding trees. The network of grass-roots will form a floor, and the rain-water will run down such a slope, towards the artificial fountain.

Theory objects to Bernard that his reservoirs for surface-drainage are mere cisterns. Palissy replies, that they have a fair right to be called natural springs, because they are formed in the same way. "I have said to you that they resemble natural fountains in all points but two; the first is, as I have said, that nature is assisted: just as sowing

corn, training and cutting vines is aid to nature: the second is of great weight and cannot be understood unless you have in mind the former part of my discourse, and having understood that properly, you will be able to judge by the proofs I have alleged that none of the natural fountains can produce water of the good quality of which you can be so assured as of the quality of that which I have taught you how to make. The reason is, as you may have seen, that the whole earth is full of different kinds of earths and minerals, and that it is impossible that water passing by the conduits of the rocks and veins of the earth should not bring with it some salt or hurtful mineral, which cannot happen with the fountain of which I have instructed you. Then you know well that it is a general rule that the lightest waters are the best: I ask you is there water lighter than that of the rains? I have told you already how they have risen before they descended, and that happened through the power of a warm exhalation: now the waters which have risen can contain in themselves but little earthy substance and still less of mineral. And this water which has so lightly ascended by exhalation, descends again upon ground which you know well to be free from mineral or hurtful matter." If, therefore, says Palissy, any difference in name is to distinguish his fountains from those which flow without assistance, he would call those Wild fountains, "just as fruit-trees which grow naturally in the woods are called wild: and being transplanted are softened and improved for use. And if you would understand better that

rain-waters are the lightest, and in consequence the best, question a little the dyers and the sugar-refiners, they will tell you that the rain-water is best for their business and for many other things."

The practical principles taught by the shrewd Potter in this treatise, are precisely those in which sanitary writers are at this day busily endeavouring to instruct the public. The system of surface-drainage taught by Master Bernard has been applied among us only during the last few years, and is slowly coming to be regarded as the best means of providing for the water-supply of all large towns. The opinions recorded in 1580 by Master Bernard of the Tuileries, find a complete echo nearly three hundred years afterwards in the report of the General Board of Health on the supply of water to the metropolis, issued in 1850. Our Board of Health is not less decided in its censure of well-water, than Bernard Palissy was in his own day. The board, after pointing out, as Palissy had pointed out, the admixture of foul matter with the wells of towns, tells us that "deep well-water is free from these surface animal and vegetable impurities, but it has generally more of mineral impurity"* (so taught Bernard), "and is usually unattainable in sufficient quantity at a moderate expense." In Bernard's time that last objection had especial force,

* "Instinct or experience," says Mr. Youatt, whom the report of the Board of Health quotes gladly, "has made the horse himself conscious of this, for he will never drink hard water if he has access to soft; he will leave the most transparent water of the well for a river, although the water may be turbid, and even for the muddiest pool."

and was dwelt upon by the Potter, as we have seen, with ample emphasis. The board gives copious evidence which it declares to be "conclusive in favour of the adoption of the principle of soft water supply by means of gathering-grounds." The idea of its gathering-grounds it adopts from "the new practice in Lancashire," and the new practice in Lancashire is, in effect, that which Bernard taught two hundred and seventy years ago. "The new practice in Lancashire has been," the board informs us, "to take some elevated ground, generally sterile moorland or sand heath, and to run a catch-water trench or conduit round the hill, midway, or as high up as may be convenient for the sake of fall, regard being had to the space of the gathering-ground. An embankment is thrown across some natural gorge, at the nearest point at which a reservoir may be formed without the expense of excavation. Into this the rain-water is led and stored, having in many instances been previously filtered."

The Lancashire men, on the point of water-supply, are not in advance of the self-educated Potter. The secrets he had gathered from devout communion with nature, Bernard did not hide. He told them as he could; he called the learned men about him in his cabinet, and placed his self-taught knowledge freely before them; he wrote it down plainly in his mother tongue and printed it, and scattered it in print. He declared himself ready to be visited in his own house and answer questions, or give more abundant explanations of his doctrines to any

man by whom they were desired. To the utmost limit of his energies, and they were great, by ordinary and by extraordinary means, the humble artisan endeavoured to diffuse his knowledge. His efforts were unsuccessful. France in that miserable age could not attend to science, and they who praised the ingenuity of Master Bernard of the Tuileries, were most concerned to wonder that it should be displayed by a man ignorant of Greek and Latin. There would have been a hearing for the naturalist out of France if he could only have spoken to the world in what was then the universal tongue of science; he would have won also more respect in his own country. But Bernard could write only in his mother tongue words whose extreme simplicity and ease discredited his claim to rank as a philosopher. So, were an eagle to be nested among owls, the owls might look upon him as a clever though eccentric bird; but they would pity him for wanting gravity of aspect, and censure his perverted taste for flying out into the daylight.

CHAPTER IX.

DOCTRINES OF PALISSY: ALCHEMY AND THE ORIGIN
OF METALS.

BROUAGE, a small town, with a harbour, is situated on the coast among the marshes of Saintonge. It was built upon ground rescued from the sea by Jacques, a Sire de Pons, under the reigns of Charles VII. and Louis XI. The town having been fortified by this Jacques, was named after him Jacqueville or Jacopolis, soon afterwards corrupted into Jaques Pauly. It was a prosperous salt-marsh district, and the name Brouage indicates its nature, being taken from a Celtic word, "brou," meaning marshy soil. The town of Brouage, not far from the old home of Palissy, in Saintes, had undergone two sieges during the civil wars: the last in the year 1570. Saintes also had been besieged, and the whole district of Saintonge was trampled down repeatedly by combatants. The town of Brouage, when besieged, had suffered much from want of water. Remembering this fact, and being most familiar with the district,

Palissy adds to his essay upon waters and fountains an "Advertisement to the Governor and Inhabitants of Jaques Pauly, otherwise named Brouage," to explain to them that the situation of their town is suitable for the supply of their want by surface-drainage, at a very small expense.

Having completed the statement of his Theory of Springs, and the application of his theory to practice, Palissy devotes a page or two to a short essay—always, of course, using the form of dialogue—upon the bore in the Dordogne. If it were caused by the opposition of the tide, he does not see why it should take place only at one time in the year, and why it should not take place in the Garonne also, since both rivers flow into the same estuary. These questions he had pondered on the Bec d'Ambez, the narrow point of land between the confluence of the two rivers; and he endeavours to explain a difficulty that was in his day perfectly inexplicable, by the suggestion of an ingenious idea. This little essay contains, also, a notice of the stormy passage of Maumusson among the islands of Saintonge, named by Rabelais among the most dangerous spots on the French coast. Here, also, Palissy had looked on thoughtfully, and taught himself how waves are lifted by the friction of the wind.

After briefly noticing these matters, the venerable Potter bends his white hairs over the paper, and prepares his pen for a more delicate investigation. A bold attack on alchemy in France, during the sixteenth century, could not fail to give a great deal of offence, since alchemy was prac-

tised by physicians, nobles, even kings. Bernard was not likely to speak otherwise than boldly, but he was not willing to offend an entire class of men, which included many of his patrons and familiar friends. The treatise upon alchemy and metals is preceded, therefore, by this notice "To the Reader," which is set up by way of lightning-conductor, to divert whatever flashes of wrath his work might otherwise bring down upon his head.

"Friend reader, the great number of my days and the diversity of men has made me acquainted with the divers affections and opinions more than can be named existing in the universe: among which I have found the opinion of the multiplication, generation and augmentation of metals, more inveterate in the brains of many men than any of the other opinions. And because I know that many seek for the said knowledge without a thought of fraud or malice, but because of an assurance they have that the thing is possible: that causes me to protest by this writing that I do not at all propose to blame three kinds of persons. That is to say, the nobles who occupy their minds, by way of recreation, and without being incited by a desire of unlawful gain. The second are all kinds of physicians, who desire to understand the ways of nature. The third are they who have the means, and who believe the thing to be possible, and would not on any account make evil use of it. And because I have undertaken to speak against thousands of others who are unworthy of such knowledge, and totally incapable, on account of their

ignorance and slight experience. Also because they have not the means of supporting the losses which ensue, they are constrained to cheat with external dyes and sophistications of the metals. For these reasons I have undertaken to speak boldly, with invincible proofs, I say invincible to those of whom I speak, and if there be any one who may have effected so much by his labour that he has moved the charity of God to reveal to him such a secret, I do not mean to speak of such persons: But on the contrary, inasmuch as the capacity of my own mind cannot fit itself to the belief that such a thing is possible, when I shall see the contrary, and truth shall vanquish me, I will confess that there are no people more hostile to science than the ignorant, among whom I shall not be at all ashamed to place myself in the first rank, in as far as concerns the generation of metals. And if there be any one to whom God may have distributed this gift, let him excuse my ignorance: for according to that which I believe I am about to put my hand to my pen, to pursue that which I think, or to express it better, that which I have learned with very great labour, and not in a few days, nor in the reading of a set of books: but in anatomising the womb of the earth, as may be seen by the discourse which follows."

It will be seen that Bernard took much pains in writing this apologetic note, and that his remodelled sentences are here and there left incomplete. The Potter, though his genius spreads a great charm over his writing, was pro-

bably not ready with his pen; he says of himself, in this treatise on Alchemy, that he "could write neither Latin nor Greek, and scarcely French." The consciousness of technical defects, and the necessity of labouring for that union of extreme clearness and brevity essential to the fit communication of his philosophic views in print—before the invention of book-making—caused Palissy to take great pains over his composition. We know that he did this, because by some accident the printer received duplicate sheets of manuscript belonging to one portion of the treatise upon Alchemy. Of these sheets one was a corrected version of the other; and Palissy appears not to have detected in good time that the printer had used them both, one in its proper place, the other tacked to the conclusion of the treatise. A comparison of these two pieces shows how carefully the Potter laboured to overcome what he regarded as the drawback of his "rustic style."

Once engaged upon his subject, Palissy, of course, proceeds to speak his mind without reserve; his only care is to speak clearly. His treatise is upon Metals and Alchemy. He suggests modestly his own theory of the formation of metals; for of the generation, augmentation, and congelation of metals, to which alchemists pretend, he says, "it is a work done by the command of God, invisibly and of a nature so very occult that it was never given to a man to know it." Against alchemy the Potter uses all the power of his reason.

In regarding Bernard as a chemist, we must of course remember that the main truths of chemistry began to bud in our own century, and that in the time of Palissy the seed from which they were to come was scarcely planted in the minds of the philosophers. Palissy did not decry alchemy in its decline. In 1681, exactly a century after the publication of Palissy's discourses, Beccher* wrote of chemists as a strange class of mortals, impelled by an almost insane impulse to seek their pleasure among smoke and vapour, soot and flame, poisons and poverty. "Yet among these evils," he says, "I seem to myself to live so sweetly, that may I die if I would change places with the Persian king. My kingdom is not of this world. I trust that I have got hold of my pitcher by the right handle—the true method of treating this study. For the pseudo-chemists seek gold; but I have the true philosophy, science which is more precious than any gold." So Beccher was proud to write a hundred years after the time of Palissy; and when we remember that the Phlogistic Theory—a false but serviceable notion—was not propounded until that time, having, indeed, Beccher and Stahl for its establishers, we must not expect more than shrewd perceptions in the best chemical theory that could have been propounded by the wit of man in the year 1580. The simple doctrine of the opposition between alkali and acid was not at that time known. It was first

* In the *Physica Subterranea*. Preface to the Reader.

taught by Francis de la Boe (Sylvius), who was born, thirty-four years afterwards, in Amsterdam.

Chemists, in the time of Palissy, supposed that there were four elements, and three principles, salt, sulphur, and mercury. Of sulphur and mercury were made the metals. This theory of the origin of metals Palissy disproved. It should be well remembered that the origin of metals is at this day unknown to chemists; they have not yet been decomposed; and we escape from our difficulty by saying that each metal is an element in itself, though we more than suspect that this also is a theory that better knowledge will explode. Until our own great chemist, Faraday, in very recent years, gave definite direction to our thoughts by pointing out the relation that subsists between ore-producing veins and the magnetic currents in the earth, we had no light to aid us in discovering the origin of metals. We say that they were made in the beginning, and accordingly will be found in the end; so said the philosophers in Bernard's time of rocks. So said Palissy of nothing. In his scheme of philosophy the universe is never idle; animal, plant, and mineral, alike are working always to fulfil the benevolent designs of God. He knows no idle substance in creation.

In endeavouring to account for the formation of metals, he observes, in the first place, that when pure, they are found deposited in a crystalline form. After many years' reflection on the origin of crystals, Bernard tells us how, "one day somebody showed me some tin ore that w^a

thus formed in points, another time there was shown to me silver ore still cleaving to the rock, in which the substance of the said silver had been congealed, which ore was also formed in diamond points. When I had considered all such things I understood that all stones and kinds of salt, marcassites and other minerals, of which the congelation takes place in water, contain in themselves some form whether triangular, quadrangular, or pentagon, and the side which is in the earth and against the rock cannot have any form but that of the surface on which it reposes at the time of congelation."

Palissy was acquainted, from observation, with the mode in which substances were slowly deposited from water in the crystalline form. He was aware of the contained water of crystallisation, "the crystalline water which has some affinity with the generative water presently to be spoken of." Palissy shows, throughout, a knowledge of the fact, that crystals of the same substance are constant in their form, although this fact was not recognised in science before the year 1669, and crystallography was unknown as a science upon which reasoning was to be founded until the time of Haüy, in 1780, two centuries after the publishing of Bernard's book. Palissy ascribes, in several places, the formation of crystal to the tendency existing among homogeneous particles to come together and cohere. "I know well," he says, with a glance forward into unknown regions of chemistry, "that these things have some power of attracting one another, as the loadstone attracts iron.

Also I know well that sometimes I have taken a stone of fusible matter, that after I had pounded and ground it as fine as smoke, and having thus pulverised it I mingled it with clay, some days afterwards when I was about to labour on the said clay, I found that the said stone had begun to collect itself again, although it was so subtly mingled with the clay, that no man could have found a stone so big as the little atoms that we see upon the sun-beams entering a chamber, a thing at which I marvellously admired. That will induce you to believe that the matter of the metals collects and congeals wonderfully, according to the order and the wondrous power which God has ordained."

Crystals, then, being deposited in water, and containing water, native metals being at the same time deposited in a crystalline form, Palissy considered that he could not err in considering all metals to have been deposited from water. He confirmed his opinion to the hearers in his cabinet, by producing wood impregnated with metal, and shells that likewise have assumed metallic form, "of which shells" he says, "I have seen some quantity in the cabinet of Monsieur de Roisi.* For my part I have one which I showed to the master-mason of the fortifications of Brest, in Lower Brittany, who attested to me that there were many like it to be found in that country. In the cabinet of M.

* Henry of Mesmes (Diocese Bazas), Chevalier Seigneur de Roissy, was Councillor of State, Chancellor to the King of Navarre in 1572, and superintendent of the house of the Queen of France in 1580.

Race,* a famous surgeon of this town of Paris, there is a stone of metallic ore, in which there was a fish of the same substance. In the region of Mansfeld are found a great number of fishes reduced into metal." Another piece of tangible evidence produced by Bernard at his lectures, was a lump of slate in which there was contained a metallic crystal, slate itself being evidently a subaqueous deposit. He cites also, in support of his opinion, the fact of water being found abundantly in mines. "One day Antony, King of Navarre, commanded to pursue the vein of some silver mines that had been found in the Pyrenees. But when a small quantity of ore had been extracted, the waters that were found compelled the overseers of the mines to abandon all. And you know well that many mines have been abandoned for that reason."

Having determined, then, that metals were deposited from water, in which no man ever saw them in nature visibly suspended, Palissy laboured to discover how this deposit could take place. He solved his difficulty by the suggestion of another element. "Since the crystals," he says, "form in the midst of common waters, refusing to have affinity with them in their congelation, any more than fat, oils, and other matters that will separate themselves

* Monsieur Race was Nicolas Rasse des Nœux, surgeon to the king, who died in Paris, 1581. He left a MS. collection of pieces in verse and prose, relating to the political events of his time, and an extensive library, chiefly consisting of old Gothic romances. Some curious old books, with his name upon them, are dispersed among the chief libraries of Europe.

from the common water: we must conclude, then, that the water of which the crystal is formed, is of a kind different to common water; and if it be of a different kind, we must assure ourselves that there are two waters, the one exhalative, the other essensive, congelative, and generative, which two waters are intermingled one with another in such a manner that it is impossible to distinguish them, until one of the two has been congealed."

Having defined the affinity which unites bodies different in kind, and the attraction which is a "supreme power that draws together things of the same nature"—having pointed out some of the first principles of crystallography, Palissy proceeds to account for various phenomena by means of his fifth element, the water of crystallization, the germinative or congelative as opposed to the exhalative or common water. This matter, flowing occult with every stream, contains the germs of scents, flavours, and divers properties of things afterwards to be developed. In the seed, says Palissy, are the germ of future leaves and branches, colours, odours, and fixed shapes of leaf and flower, all which things it draws out of the earth; not more wonderful, says Bernard, is his fifth element—the congelative water, which he supposes to be the germ of minerals and salts. This water, that is to be obtained also from crystals, is obtained from straw and vegetative matter; it is this which enters into the composition of animal bodies, which are full of fluid, and were born in fluid, to increase their substance.

Against the objection that the manner of this action is incomprehensible, Palissy adduces other wonders equally beyond comprehension and yet true. For example, he says, "I have seen at the time when glass-painters were in great request, because they painted figures in the windows of the temples, that they who painted the said figures did not venture to eat garlic or onions; for if they had eaten any, the painting would not hold upon the glass. I knew one of them named Jean de Connet, because he had an offensive breath, all the painting that he made upon glass would in no way be made to hold firm, although he was accomplished in his art." Again, "I have seen a woman modest, wise and honourable, who when her husband was in the country felt by some secret movement the day on which her husband would return."*

Against the alchemists Palissy objects that it is an error to attempt the formation of that by fire which nature forms by water. He bids them pound an acorn and by art attempt to rebuild it, or pound radiant shells and mould them again into a glorious cup of the like lustre. Such things are less difficult than to create gold.

* In the library of St. Germain des Prez there are some MS. extracts from the works of Palissy, by a contemporary student, who adds to this passage the following statement from his own experience: "The wife of Master Jean de la Moltrete, named Master Jean de Rochnions, living at the said place in Carry, assured all the people of her house, one morning at the end of May, 1582, that I should arrive that evening, which proved to be true, I returning from Lyons, on which journey I had been away nearly two months. Such movements, I say, belong not only to human and brute creatures, but also to the vegetative and metallic."

In speaking of shells rainbow-hued, Palissy shows that he did not, like his contemporaries, look upon the rainbow as a simple wonder in the sky. "I considered," he says, "that the cause of the rainbow could only be that the sun-light passed directly across the rains that are opposite the sun: for one never saw a rainbow to which the sun was not opposite; also one never saw a rainbow through which the rain was not falling."

The arguments of Palissy against the alchemists it is not necessary in the present day to reproduce. Of the absurdity of the belief that by the philosopher's stone gold could be multiplied a hundred-fold, Bernard had an extremely keen perception. To the assertion of his antagonist, that he had with his own hand, under the direction of an alchemist, doubled a piece of silver money, Palissy answers with the exposition of a common fraud. A second piece of metal had been fastened by wax to the end of the rod with which the cauldron had been stirred, and the wax melting, had left the silver at the bottom of the pot. Other frauds Bernard exposes, and especially dwells upon the large quantity of bad money that had been put into circulation by men who carried on the business of coiners under the cloak of alchemy. "There was a false coiner (of Béarn) taken in the diocese of Xaintonge, on whom were found four hundred counters ready to be marked, no jeweller or other man would have supposed their metal to be bad. For they answered like good coin to the hammer and the flame, were right in touch and

tone. But when they were tested the fraud was discovered. At that time there was a provost at Xaintes, named Grimaut, who assured me that in proceeding against a coiner the same gave him the names and surnames of a hundred and sixty men, who were his fellow-tradesmen, together with their ages, qualities and abodes and other certain marks of recognition. And when I inquired of the said provost why he did not cause the apprehension of the said coiners named upon his list, he replied to me that he dared not undertake it: because there were in their number many judges and magistrates, as well of the Bordelois and Perigord as of Limousin: and that if he had ventured to annoy them, they would have found means to put him to death."

Of the facility and skill with which delusions might be practised, Palissy gives this illustration: "The *Sieur de Courlange*, valet-de-chambre to the king, knew many such artifices, if he had cared to use them. For one day happening to discuss these things before King Charles the Ninth, he boasted by way of jest, that he would teach him to make gold and silver, to experiment upon which matter he commanded the said *Courlange* to prepare for the work promptly: this was done, and on the day of trial the said *De Courlange* brought two phials full of water, clear as spring-water, which was so well prepared that on putting a needle or other piece of iron to steep in one of the said phials it became suddenly of the colour of gold, and the iron being steeped in the other phial became

of the colour of silver: then quicksilver was put into the said phials, which suddenly congealed: that of one of the phials taking a golden colour, that of the other being like to silver: of which the king took the two lumps and went boasting to his mother that he had learned how to make gold and silver. And all the while this was a deception, as the said De Courlange has told me with his own mouth."

Palissy tells also of the devices by which alchemists endeavoured to hatch gold, by exposing their materials to a slow, continued heat, resembling that of incubation. Some placed the fire at a distance from their would-be golden eggs, and conducted the heat through a flue with many doors, by which to regulate the temperature. Others used the heat of a lamp, with a wick perpetually equal, and hoped that in the end this would produce the attainment of their object. "I say," Bernard tells us, "that some have waited many years,—witness the magnificent Maigret,* a learned man of great experience in these matters, who nevertheless being unable to come by his desire, boasted that if the wars had not put out his lamp before the time he should have found the alcahest."

As a last illustration of the views of Palissy upon the subject of alchemy, we may refer to his opinion on the

* Louis Maigret had translated Greek and Latin authors, and composed systematic works upon French grammar. He had also edited a series of engravings from Albert Durer. Palissy may perhaps call him magnificent because he was a pompous personage. He speaks of him in another treatise with the same epithet.

subject of the advantage to be derived even if five or six Frenchmen really did discover the philosopher's stone. "I have been told," urges Theory, "by several alchemists, that if they could succeed they would make gold enough for"—a good sixteenth-century ideal of the use of a great deal of gold—"for carrying on the war against all adversaries and even against the Turks."

Palissy replies to this, "I tell you on the contrary that we had better have in France a plague, a war and a famine, than six men who could make gold in such abundance as you say. For after all had been assured that it was possible to make it, everybody would despise the cultivation of the earth, and would study to find out how to make gold, and in this way the whole land would be left fallow, and all the forests of France would not supply the alchemists with charcoal for six years. They who have studied histories say that a king having found some gold mines in his kingdom, employed the chief part of his subjects in extracting and refining the said metal, which caused the lands to remain fallow, and famine to arise in his dominions. But the queen (as being prudent and moved with charity towards her subjects) caused to be made secretly capons, pullets, pigeons and other viands of pure gold, and when the king would dine, she caused these viands to be served, whereat he was glad, not understanding the point at which the queen was aiming: but seeing that no other food was brought to him he began to lose his temper, seeing which the queen supplicated him

to consider that gold was not meat, and that he would do better to employ his subjects in the cultivation of the ground than in the search for gold. If you are not convinced by so good an example, consider within yourself and be assured that if there were, as you say, six men in France who knew how to make gold, they would make so large a quantity thereof that the least of them would wish to establish himself as a monarch, and they would wage war with each other, and after the secret had been divulged, so much gold would be made that none would be willing to give in exchange for it bread or wine."

CHAPTER X.

DOCTRINES OF PALISSY: THE ROCKS AND FIELDS.

POTABLE gold has already been referred to in these pages; a small treatise pointing out its useless character as medicine follows the treatise upon alchemy and metals. The belief in this preparation, almost universal in the time of Palissy, did not die out very rapidly. The potable gold of Mademoiselle Grimaldi has not long been out of use in Paris, and a receipt for making potable gold was still contained in the dispensatory of the Paris Faculty of Medicine two centuries after the delivery of Bernard's lectures.

From potable gold Bernard passes on to mithridate, the enlarged version of a receipt supposed to have been found by Pompey in the tent of Mithridates. There was a supposed antidote to poison (perhaps used really as an antidote against malaria), composed of salt, figs, almonds, nuts, and rue-leaves; and there was also a formidable prescription, including fifty-four items. This prescription was enlarged afterwards, on the occasion of a plague, to

a conspiracy against the stomach of some three hundred drugs, invented by a council of physicians. Against this absurdity, and the whole practice of making long prescriptions, buttressed as it was by the confidence of the profession, Palissy battered arguments, and with the arguments he brought, as usual, into the field a light troop of apt illustrations, well equipped and furnished by his ready wit. The scent of a bouquet containing many fragrant flowers is inferior, he says, in delicacy to the fragrance of a single blossom; the meat of capons, pigeons, partridges, pounded together, would not have so good a flavour as the meat of one of them alone; azure, vermillion, green, and other colours, rubbed into a mass, yield an unsightly compound; so also many properties of medicine combined into a lump yield a result which cannot be foretold, and will be of less value to the physician than a medicine containing only one or two ingredients judiciously selected.

A dispute which Palissy had maintained with some learned friends, one winter's day, while standing by the Seine, opposite his workshop, next occurs to his mind, and suggests a brief essay. Its subject is the formation of ice, and Palissy maintains by argument that it is formed on the surface of the water, and that it does not, according to a common belief, form under water and ascend. The question remained subject to debate even in the beginning of the nineteenth century. The essays on salts and on common salt, which follow next, have been sufficiently referred to in a former part of this biography. The next

dialogue, one of the most important of the whole, is that upon stones. Between this and the elaborate treatise upon marl, with which the book concludes, are an essay upon clays, and the account of his struggles as a potter, of which use has been made in the biography, and which will be found complete at the conclusion of these volumes. The dialogues upon stones and marl, detailing the latest views of Palissy on many points connected with geology and vegetable physiology—the best expression of his knowledge gained among the rocks and fields—are all, therefore, that now remain to be considered before we close our survey of his doctrines.

Let us first understand the position of geologic science in the time of Palissy. Its first principles will be found laid down in his treatise upon stones; elsewhere, they appear scarcely to have been suspected. The earth, it was supposed, had been made in the beginning, and there was little to learn by studying its structure. Fossil marine shells, on mountains and elsewhere, were certainly extremely curious—formed, probably, by a sportive plastic influence descending from the stars, or by a formative power in the body of the earth; certainly not relics of animals, but imitations of them, sports of nature. The strong arm of the Church held back all bold suggestion, that might be supposed by short-sighted ecclesiastics to throw doubt on the authority of Moses. The hills which skirt the range of the Apennines are very full of fossils, and protested strongly against the old plastic doctrine to the eyes of

sensible observers. The authority of this doctrine was therefore openly questioned by individuals in Italy from time to time, before a doubt had suggested itself to naturalists in any other country. The painter Leonardo da Vinci, who died in 1519, was the first who is known to have asserted that the petrified shells had contained living animals.* “‘They tell us,” he writes—“they tell us that these shells were formed in the hills by the influence of the stars; but I ask where in the hills are the stars now forming shells of distinct ages and species?”

Fracastoro, on the occasion of excavations at Verona, in 1517, exposed the absurdity of the theory of plastic force, and said that the Mosaic deluge was too transient to be the cause of so peculiar a dispersion of the shells. Andrea Mattioli, on the other hand, was less clear-sighted, and called the petrifications, fatty matter fermented by heat.

Falloppio, of Padua, considered them to be generated by fermentation, or a tumultuous movement of terrestrial exhalations. He was a professor of anatomy, but he believed the tusks of elephants found in the soil to be mere earthy concretions, and even regarded buried vases as fortuitous impressions in the soil.

Mercati, who described, a few years before the publication of Bernard's book, fossils preserved in the Vatican by Sixtus V., called them stones shaped by the influence

* This interesting fact was, I believe, first made public by Sir Charles Lyell, in his *Principles of Geology*, from MS. letters of the painter.

of heavenly bodies. He, however, who makes a catalogue for a pope, must needs abide by the scientific opinions of the Church. Many men of science had at that time adopted the opinion of Cardan, and these opinions had spread even into France. Cardan, however, was behind Fracastoro in his views, for while he considered fossil shells to be the remains of living animals, he ascribed their dispersion to the Mosaic deluge.

In France, during the latter days of Palissy, the Church, the ignorant mass, and the bigoted in science, looked upon fossils in the old way, as sports of nature; the more enlightened followed the opinion of Cardan: against both Palissy contested. But the opinions even of Cardan were suspected by the orthodox; and Palissy, passing beyond them to more enlarged views, was the first man, as Fontenelle declared, a century and a half after his death, in the French Academy—"the first who dared openly assert in Paris that fossil remains of testacea and fish had once belonged to marine animals."

Hieronimo Cardan, whose opinion that the position of fossils is due to the Mosaic deluge Palissy justly controverts, was a very able Milanese philosopher, who wrote upon judicial astrology, physics, and morals. He is said to have starved himself, in the same year in which Bernard's book was published, in order to fulfil a prediction that he should die at the age of seventy-five. He did die at that age, in the year 1580, but the legend of his suicide is probably an error. He was a man of quick wit and warm

blood, as he notifies to the world by publishing among his works, instead of whispering to the Church, his confession.*

* Cardan must have published the worst of himself in this account of his life, for he had reason to take pleasure in alarming the respectabilities of his own day. He owed nothing to respectability. An illegitimate son, he spent his youth as servant to a father who was little else to him but a cold master. When his genius had forced him at last up to the means of gratifying his desire for study, he was twice refused his doctor's degree, upon the ground of bastardy:—though learned, he was not respectable. Through the pleading of good friends, his degree was at last obtained; but his first years of manhood, like the first eight years of his childhood, were darkened by the shadow of impending death. After being homeless and friendless, while he was at the same time desperately sick, Cardan at last settled in Milan (often, however, unsettling himself), and made his way as a physician. He owed nothing to the world, and conscious of his intellectual rank, he scorned the cant which would have excluded him, for his birth's sake, from the profession he had chosen. He knew the private characters of nearly all the men who dressed so carefully, and had so much of their own goodness to display before the world. It pleased him to tell the solemn hypocrites, "I have done this, and this, and this; I have gambled and done many a wild thing; and so I am not one of you, who are all honourable men." In society, it pleased him to take up what were accounted the perversest arguments. He was careless about dress, and bold enough to walk about, varying his pace according to his humour, forgetting entirely all that measured steadiness of gait in which respectability delights. The result was a general opinion that he was partly mad; in some respects too clever for a man, in some too silly for a child. A second sketch of his own life is given briefly by Cardan, in the course of his three books on Consolation, whereby he shows that he himself had need to be consoled. His pithy style and aptitude in illustration may be displayed, together with the cast of his philosophy, in a few lines from this work: "A man is nothing but his mind; if that be out of order, all's amiss; and if that be well, all the rest is at ease. I remember a certain rich man, falling mad, snatch'd up a straw, and complain'd he should die for hunger, because there was no corn within the empty ears." (I quote from an old English translation—*Cardan, his three books of Consolation English'd—Of great use in these times.* London, 1683.)

Palissy then stood equally opposed to the geology of the Church and the geology of Jerome Cardan. To understand the position of the Potter's doctrines in the history of science, we must remind ourselves again of the state of knowledge long after his death. When Steno the Dane wrote, in 1669, on solids within solids, the belief still continued to be prevalent that fossils were not animal or vegetable remains. A hundred years after the time of Palissy, the most extravagant notions on the subject of petrifications are broached in our own philosophical transactions. There is no want of faith here in their animal origin, but the faith wants measure. Reference is gravely made to "*Helmont de Lithiasi*, where, among other Remarques, is recited the 'Testimony of a Petrified Child seen at Paris, and by the Owner used for a Whetstone,' and to other things "perhaps not well enough attested by Authors, of the stupendious Petrifications of whole Companies of Men and Troops of Cattle, by Aventinus, by Purchas in his Pilgrimage, and (of a troop of Spanish Horsemen) by Jos. Acosta."*

Palissy was too shrewd a philosopher to manifest credulity. In speaking of the cause of petrification, he says guardedly, as for the petrification "of man, I have never seen it; but I have the good testimony of a respectable

* There is also cited "*Deusingius's Historia Infantis in Abdomine inventi et in duritiem lapideam conversi.*" Heppel and Kirker talked of a town in Africa petrified with all its inhabitants, and Vanhelmont went so far as to record the petrification of a troop of Tartars, cattle and all, by the blowing of a certain wind.

physician, who tells me that he has seen, in a gentleman's cabinet, the foot of a man petrified. One Monsieur Salles, living in Paris, has assured me that there is a German prince who has in his cabinet the body of a man in great part petrified." He leaves these facts as he has heard them, and goes on to say that it is quite possible that if a man were buried where his body could become impregnated with stony matter, in the proper way, such petrification would take place.

The way in which petrification takes place, as described by Bernard, is correct enough; explanations of the process in the language of our own day differ in little but in language, and scarcely show more knowledge than Palissy possessed. The fifth element, congelative water, or, as Bernard often calls it, salt, is of course a prime agent in the process. Let us distinctly understand what Bernard means by his fifth element. When common salt, sugar, saltpetre, and many other substances, are mixed with a fit quantity of water, they dissolve. They disappear entirely. If they were merely held in suspension, they would be visible in little particles throughout the fluid; but by dissolving, they have entered into a relation with the water, much more wonderful than our familiarity with the phenomenon would often suffer us to think it. A glass of water thus containing matter in solution, which has not affected its colour or fluidity, is to the eye water in every drop. Well-water, which contains a large quantity of lime, is clear, fluid, and sparkling. The lime is in the water in a fluid form, and not distinguishable from water.

This mystery Palissy expressed to his understanding by saying that solid matter, flowing as water in water, existed in the distinct state of a congelative water, whose purpose in the economy of nature was of vast importance, and which he called therefore a fifth element. Every substance that can be deposited from solution in water was, in the eyes of Palissy, a salt. The duty of this congelative water was, at the command of God, to penetrate by virtue of its fluid form along the roots into the stems of plants, and there congeal into a solid matter for their increase; to penetrate the strata of the earth, and deposit matter which should cause the growth of stones and so forth. Palissy uses as terms often convertible the phrases, salt and congelative water. From congelative water many kinds of salts are deposited. "Salts," Bernard says, "have some *affinity* together. The salt of the dead body being in the earth exercises *attraction* on another salt, which will be of another kind, and the two salts together might harden and transform the body of a man." Again, "I am quite sure that if the body of a man were interred in a place wherein there is some dormant water, among which there is congelative water, which forms crystal and other metallic and stony matters, that the said body would petrify: because the congelative germ is of a salsitive nature, and the salt of the body of the man would *attract* to itself the congelative matter, which is also salsitive, because of the *affinity* that is between the kinds,

they will come to congeal, harden and petrify the human body."

Palissy is speaking, in these passages, of the possible petrification of a human body by the same process which he describes as causing the conversion into stone or metal of wood, shells, and other organised productions. It will be seen that his theory is good, and that his fifth element or congelative water is a theoretical formula which might have been adopted for a time with very great advantage to the progress of philosophy. It is the name for a true thing, which Palissy saw in its true place in the economy of nature. The preceding extracts will also sufficiently illustrate the way in which Palissy makes the term salt a convertible term with his congelative water; they also happen to contain examples of the way in which Palissy used the words affinity and attraction, and brought such powers into play. We find in the works of Palissy the first example of the employment of these words in so philosophical a sense.

Enough has been said to indicate the way in which Palissy accounted for the existence of fossilised matter. Against the idea that fossil shells had been scattered abroad by the deluge, Palissy produces all those decisive arguments which would of course not escape his penetration. For example, "I will show you presently the picture of a rock in the Ardennes near the village of Sedan, in which rock and in many others are to be found

shells of all the kinds depicted on this piece of paper: from the summit to the foot of the same, although the said mountain is higher than any of the houses or even the bell-tower of the said Sedan, and the inhabitants of the said place daily hew the stone from the said mountain, to build, and in doing so the said shells are found as well at the lowest as at the highest part, that is to say enclosed in the densest stones; I am certain that I saw one kind that was sixteen inches in diameter. I ask now of him who holds the opinion of Cardanus, by what door did the sea enter to place the said shells in the middle of the densest rock? I have already given you to understand that the said fishes were engendered on the very spot where they have changed their nature, keeping the same form that they had while living." This opinion of Bernard's was a bold leap out of darkness into light, from ill-regulated guesses into rational geology.

It will have been observed that in the preceding extract Bernard is found producing a picture of the rock which he takes as an illustration, and paintings of all the species of shell that it contained. Bernard was enthusiastic in his study of geology, and while the bent of his genius was towards generalisation—a thirst for the great truths of nature, towards which all science must tend—no man ever saw more clearly the importance of observing accurately the minute facts out of which alone great principles can be extracted. With marvellous acuteness Palissy saw the importance of a detailed study of fossils to the discovery of

geologic truths. Modern geology and all its grandest results are, in fact, founded upon a minute study of fossil forms. The first who pursued this study with discriminating zeal was Palissy, the self-educated Potter, who had put himself to school with Nature. He assigned to himself the task of taking copies of all the fossil forms he saw, in order to compare and study them. His studies in this direction soon made him aware of the large number of extinct forms of life included in the list of petrifications. "I was desirous," he says, "of reducing or representing by picture the shells and fish which I had found lapified, to distinguish between them and the customary sorts, of which the use is common: but because my time would not permit me to put my design in execution while I was in deliberation upon this, having deferred for some years the above-named design and having always sought according to my power more and more for petrifications, I at length found more fishes" (using the word fishes, of course, not in the modern scientific sense) "and shells in that form, petrified upon the earth, than there are modern kinds inhabiting the ocean * * for which reason I have been bold enough to say to my disciples that Monsieur Belon and Rondelet* had taken pains to describe

* Pierre Belon, born in 1518, studied natural history and the healing art. He was sent to Judæa, Greece, and Arabia, at the expense of the Cardinal de Tournon. He died, assassinated, near Paris. He wrote of coniferous trees, of birds, fishes, of observations in Greece, Asia, Judæa, Arabia, Egypt, and other works.

Guillaume Rondelet, born in 1507, went to Italy as travelling physician with the before-mentioned Cardinal de Tournon, from whom he

and figure the fishes found by them during a voyage to Venice, and that I considered it strange that they never troubled themselves to understand the fishes that formerly dwelt and multiplied abundantly in regions of which the stones, that have congealed at the same time when they were petrified, serve now as register or original of the forms of the said fishes."

How well Palissy consulted this register, whose value he was first to recognise, may be best understood by the conclusions drawn from it. From a study of the shells of Paris, he declared—and it is needless to say that he was first to declare—the former existence in that region of a great lake or basin of water. At the present day we ascribe this origin to the tertiary deposits, and speak geologically of the Paris basin. In the succeeding passage Palissy is speaking at first of the shell deposits about Paris formed "in the following manner—that is to say, there has been some great receptacle of water in which was an infinite number of fishes armed with pyramidal shells. And the said fishes have been engendered in the waters of the said receptacle by a gentle heat, whether proceeding from the open air and sun, or perhaps by a gentle heat which is found under the earth as I have perceived when entering the said quarries. * * And because the said

afterwards received a pension, upon which he married, settled in his native place, Montpellier, and practised medicine. He died in 1566. He wrote a History of Fishes, laboured with great care from personal observation and dissections, which obtained considerable note in his own day. His garden was stocked with fish-ponds, and some of his friends have recorded with wonder the zeal which urged him to continue his dissections while he ate his dinner.

lake was full of some salstive and generative matter, that afterwards congealed, namely the water, the earth and the fishes. You will understand me better afterwards when I come to speak of the stones in the deserts of the Ardennes. And that is why one commonly finds in the rocks near the sea all kinds of fish bearing shells. It follows then that after the water has failed to the said fishes, and after the earth and water-bed in which they dwelt has been petrified by the same generative virtue as the fish, there are found as many shells petrified in the stone which has congealed from the said water-beds as there were fishes in the same, and the mud and the shells have changed their nature by the same virtue, and by the same efficient cause. I proved this point before my auditors by causing a great stone to be shown to them which I had got hewn from a rock near Soubize, a town bordering the sea: which rock had formerly been covered with sea-water, and before it was reduced into stone, there were a great number of many kinds of armed fish, which being dead in the mud, after the sea had retired from that spot, the mud and the fish petrified. The fact is certain that the sea has retired from that spot, as I verified, at the time when there was sedition in the districts of Xaintonge, when it was intended to establish the gabelle. For in those days I was commissioned to make a plan of the region of the salt-marshes; and being in the island of Broue, which makes a point on the sea-coast, where there remains a ruined tower, the inhabitants of the neighbourhood attested to me that the channel of the harbour of Brouage

was formerly seen to come up to the foot of the said tower, and that the said tower was built to keep out the pirates and sea-brigands, who in time of war came often to water their vessels at a fountain near to the said tower, and the said tower is called the tower of Broue because of the island on which it is placed, which is called Brou, whence the harbour of Brouage received its name. And inasmuch as it is at this day impossible to approach the said tower by way of the channel, one may know by this that the sea has retired, and that it may have gained as much ground in another place : as it happens also, that near the coast of Allevert, not far from the passage of Maumusson which is so very dangerous, the inhabitants of the district say that they passed formerly with ease on horseback from Allevert to the Isle of Olleron over a little ditch, or little arm of the sea which joined the open sea at its two ends. And now ships, whatever be their size, go by that passage as the shortest way from Bourdeaux to Rochelle, or to Brittany, to Flanders and to England : and formerly it was necessary to make a circuit of the Isle of Olleron. That is a testimony how the sea decreasing in one place, increases in another. Whence I infer that the rock which is full of many kinds of shells has formerly been a marine bed, producing fishes." The man who taught publicly geology like this in the year 1580, illustrating his lectures with a museum, with diagrams, and with experiments, deserves to be remembered in the history of science.

The complete scheme of modern geology derived from a study of fossils was of course beyond human grasp in the sixteenth century; but in every direction the keen sight of Palissy had indicated to him the true paths to better knowledge. Where even the bold spirit of Palissy did not venture to assert that open sea had been, in the depths of the mountains, he accounted for the fossils by the theory that there had been receptacles of water, filtering among the chinks and caverns of the rocks, from which salts were deposited, which passed away and left rock in their place. That every fossil became fossil where it had originally lived and stirred; that every water-animal had been deposited from water, and was included in the petrification of its mud and the congelative part of the water itself, Bernard taught emphatically. At the same time he pointed out that the number of land and fresh-water shells is very great, and that all shell-deposits therefore were by no means to be ascribed to either salt water or fresh water in every case. In speaking of marine shells, Palissy calls attention to the great mass of shells formed in the sea, and formed out of sea-water which must therefore have contained in solution the material of which they are formed, that is to say, in a state not distinguishable from water itself, in the state of congelative water, his fifth element.

In defining the growth of stones by addition to their substance, Palissy takes care to distinguish the mechanical increase from vital action. "Stones have no vegetative

soul, but insensible; wherefore they cannot grow by vegetative action, but by a congelative augmentation."

In the treatise upon marl, we find Palissy fulfilling his promise to inquire into that useful manure, and enunciating again many truths which he had learned on the subjects of agricultural chemistry and vegetable physiology. These subjects had not been studied in the time of Palissy, although other departments of botany had made some progress. Botany grew faster in her childhood than the sister sciences.

Though Pliny, who was no observer, continued long to be botanist in ordinary to the world, many real advances were made in the sixteenth century towards the acquisition of independent, valuable knowledge. Pliny was popular because he treated of the properties of plants, and that suited the feeling of the learned in an age of herbals. Plants were at first studied only for the cures they might be able to perform. Antonius Brasavola, who wrote a book on *Simples*,* in the year 1536, was the first who established a botanical garden; it was situated on the banks of the river Po. At nearly the same time Otho Brunfels, of Mentz, was the first modern who published figures of plants drawn from nature,† but not arranged according to any systematic plan.

Jerome Bock, a German, who translated his name into Hierononymus Tragus, published a herbal in 1551, which

* *Examen Omnium Simplicium Medicamentorum.*

† *Herbarum Vivæ Icones.*

contains the first indications of an attempt at natural arrangement, and succeeds so far as to bring into respectable groups the labiate, cruciferous, and composite plants.

In the year 1565, Conrad Gessner, of Zurich, in a letter to Zuinger, writes in terms that entitle him to the distinction of being the first to distinguish genera by the character of the fructification. "Tell me," he says, "whether your plants have fruit and flower as well as stalk and leaves, for these are of much greater consequence. By these three marks, flower, fruit, and seed, I find that Saxifrage and *Consolida Regalis* are related to *Aconite*." Gessner, we are told by Haller, was the first establisher of a museum. The formation of collections is, however, a natural taste which must have arisen simultaneously among educated people. We have found Palissy referring to the cabinets of physicians and nobles in his own time, familiarly and as usual things. Palissy was the first by whom such a collection was thrown open to the public, and employed as part of the machinery of teaching. Gessner, who lived between the years 1516 and 1565, has been called (in compliment as well as disrespect the world likes to call names) the Pliny of Germany, was a naturalist who contrasted with Palissy, by being as curiously full as Palissy was empty of the learning of his time. By spare diet and rigorous employment of his hours, Gessner acquired a marvellous amount of erudition. He understood Greek, Latin, and Hebrew; he had a smattering of Arabic, and was familiar with French,

German, Italian, and Flemish. He compiled a voluminous history of animals, and a bibliographical work called the "Universal Library," containing the names and particulars of all scientific works published by the moderns in his time. He was a pious, modest, and pure-hearted scholar, who, when the plague extended to Zurich, and laid a finger on his shoulder, leaving there a monitory spot of purple, took the hint quietly, and retiring to his study, occupied himself in the final arrangement of his writings. Thus he was found by death, a man verging on fifty, who had lost few minutes since he ran alone upon the world. Gessner, however, studied in printed books, while Palissy spent equal labour and a longer life over the handwriting of nature. The Potter also had a genius equal to his industry.

Three years after the publication of Bernard's last book, Andreas Cæsalpinus, of Arezzo, a learned man whose profound knowledge of Aristotle did not impede his power of original research, published at Florence sixteen books "De Plantis." In his book plants were arranged according to an arbitrary system, but with so much skill that they fall practically very often into natural arrangement.

These facts indicate that in the science of botany more progress had been made than in other departments of natural history in Bernard's time. The Potter himself did nothing towards systematic botany. He was a minute observer, as the devices upon which he laboured in the pottery bear witness, but his great curiosity was directed to

the reasons of things, and to the application of whatever knowledge he obtained to useful ends. He was perpetually asking Why? over the results exhibited by nature. And when he had found out why, he inquired further, What good use can I make of this knowledge?

In the dialogue on Marl, Palissy again treats of the nutrition of plants by salts contained in water, in manures, and in the soil. He points out how, in the decay of foliage, the salts taken from the earth return to earth, become again earth, and will hereafter, mysteriously combined with water, be drawn up through the roots, and enter into foliage again.

“If you would contemplate,” he says, “the reason why the roots of trees are so crooked, you will find that it is only because, as men look for the mountains, roads and by-paths that are easiest of passage, so roots in their growing seek the easiest, softest and least stony passage through the earth; and if there be any stone before a root it will leave the stone upon its way, and turn to the right hand or to the left; inasmuch as it could not pierce the stones that lie upon its way. As for the forking and the crookedness of the branches, that springs from another cause, which is that when the branches are pushing out their young shoots, each seeks the freedom of the air, and they dilate and separate from one another as much as they can, in order to have air at command.”

In another passage we find Palissy recommending exploration of the soil, discussing stratification, and reveal-

ing the principle and practice of boring Artesian wells. It is said that these wells were first bored in Artois long before the time of Palissy. Some doubt the antiquity of the practice. The principle is contained in the following passage from the Treatise upon Marl. Palissy speaks of the search for marl. "I think the soil might be pierced easily by rods, and by such means one might easily discover marl, and even well-waters which might often rise above the spot at which the point of the auger found them : and that could take place provided they came from a place higher than the bottom of the hole that you had made." This is certainly the first statement of the true theory of Artesian wells. It is a corollary from Bernard's theory of springs.

Theory might well ask, looking back upon the whole body of doctrine taught by the old Potter in the last years of his life,

"Where have you found all this written? or tell me in what school you have been, from which you might have learned what you are telling me.

"**PRACTICE.**—I have had no other book than the heavens and the earth, which are known of all men, and given to all men to be known and read. Having read in the same I have reflected on terrestrial matters, because I had not studied in astrology to contemplate the stars."

CHAPTER XI.

THE REWARD OF THE PHILOSOPHER.

THE lectures in which Bernard Palissy explained the doctrines of which a brief outline has now been given, were commenced, as we have already seen, early in the year 1575, when Palissy was sixty-six years old. They were still being delivered in the year 1584. Very few months before the commencement of these lectures, Charles IX. had been succeeded by his brother, Henry III., the third of the sons of Catherine of Medicis, who in succession occupied the throne of France. The reign of this king covered the last years of the life of Palissy, and in this reign the troubles of France again created trouble for the Potter.

It might, indeed, have been trouble enough for the old man if there had been no direct interference of the state with his career; it might have been trouble enough to live in Paris in those days, and teach what he had learnt

from solemn communing with nature in the midst of vice, frivolity, and riot. Since the time of Francis I., the court of France had been like a neglected ulcer, growing daily a more loathsome object of regard. If Henry, when, at the age of twenty-three, he came from the throne of Poland to the throne of France, brought any cleanness with him, he brought it among lepers, and was rapidly polluted by their contact. There was reason to hope well of him. As Duke of Anjou, he had been made a general at the age of fifteen, and won two battles—at Jarnac and Montcontour—before the coming of his beard. Then he was King of Poland, and at the age of about twenty-three he became King of France. At the beginning of his reign, the neutral Catholics joining the Huguenots made one side of a civil war. We have passed over many years of politics which did not concern Bernard Palissy; the state of France during the interval may be inferred from the fact that this, which began in the reign of Henry III., was the fifth civil war—a languid struggle, for the vigour of the country was exhausted.

Since the Massacre of St. Bartholomew, the mobs of Paris had become familiar with blood, and the whole temper of society had taken an aspect of increased ferocity. Assassination was the common end of a dispute. Cosmo Ruggieri, a Florentine astrologer, ministered largely to the superstition of all classes, and was regarded as a professor of the art of poisoning. Tortures and executions were frequent, at which Charles IX. had been in

the habit of assisting with his presence; and Henry III. followed the example of his predecessor. From such scenes the eyes of women were not averted. Women were courted with fierce mockeries of passion; love-letters were indited in the writers' blood; and in the intense corruption of the public morals, the king and his court, wearied with complaisance, created women out of men. Courtiers wore feminine attire, had earrings fitted into their ears by the king, or by some chosen friend or lover, took presently the name of mignons—minions—and devoted themselves to the utmost wickedness and folly. Confusion filled the kingdom throughout the entire reign of Henry III.; hand after hand threatened to drag him from the throne into a coffin or a monastery. Now and then the king appeared to be aroused, and with a skilful stroke he at one time turned the tables on his adversaries; but then he sank again into the filth of his court, and yielded up his manhood. "The fire was dead on the hearth of his heart, and the fiercest gale," says D'Aubigné, "could only set the ashes flying."

The king and the young nobles, in the grounds and lower chambers of the Louvre, ran races, leapt ditches, tried pistol-shots and poniard-points. He was proudest who could talk most loudly, whether with or without truth, of his feats as a seducer or assassin. Ridiculously curled, and tricked out with stiff, affected garments, the king and his friends were to be seen frequently shouting through the streets of Paris, capering at fairs, insulting traders,

always with a poniard ready. The young men affected wild attachments to each other, called each other by affected names; and when a Pythias was absent on a trivial journey, his Damon would wear mourning and refuse meat. Or they would quarrel. The Seigneur St. Phal pointed out an embroidered Z upon a garment; the Seigneur Bussi, by way of picking up a quarrel and enhancing his own credit as a bully, affirmed that it was no Z, but a Y. They challenged each other, and kept up for years upon this point a remorseless feud. Another noble, high in the king's favour, under some provocation pierced the body of his wife, destroying her with unborn twins. The Duke of Guise, Le Balafré, the murderer of Coligny on St. Bartholomew's-day, and a degenerate son of the duke who died before Orleans, pursued a victim, poniard in hand, into the presence of the king.

The Duke of Guise was the unworthy idol of the extreme Catholic party, to which, since the Day of St. Bartholomew, the town of Paris had most heartily belonged. It was desired to create this duke into a king, at the expense of Henry; and had not the duke wanted steadiness of purpose, the desire would probably have been accomplished. The tumult of a violent party pressed the Duke of Guise sometimes to the very steps of the throne, while Henry—the record of his character is in his journal,—there one reads that, “In spite of all the affairs of the war and the rebellion that the king had on his hands, he commonly went in a coach with the queen, his

wife, through the streets and houses of Paris to take the little dogs that pleased them; went also through all the nunneries in the environs of Paris, to make the like search for little dogs, to the great regret of those who had them."

In the year 1585, this king, finding no other way of saving himself from the imminent danger in which he was placed by the extreme Catholic party, put himself at the head of their league, and issued a decree prohibiting the future exercise of the Reformed worship on pain of death, and banishing all those who had previously adhered to it.

Palissy was then an old man of seventy-six, still teaching philosophy, and still superintending his workshop in the abandoned palace of the Tuileries. In his lectures and in his book, Bernard abstained from all allusion to the struggles of the time. He preserved his religion pure, but turning from the horrors of the civil strife, in which Scripture texts were written upon flags, and psalms sung to the roll of drum, he abstained wholly from religious controversy. He was known, however, as a Huguenot, and no royal ordinance could alter his convictions, or drive the sturdy Potter, in alarm, out of the way that he had chosen as the way of truth. It was said, therefore, of the old man, "He regardeth not thee, O king, nor the decree that thou hast signed;" and Palissy was sent to the Bastille.

Sentence of death, executed upon many who remained unmoved in their worship by the king's decree, was de-

layed, in the case of Master Bernard, only by the artifice of friends in power, and chiefly the Duke of Mayenne, who caused all possible delays to interrupt the suit against him.

Four more years of life remained to Palissy, all spent within the four walls of his prison. After a time, two fair girls, daughters of Jacques Foucaud, attorney to the parliament, condemned like Bernard for their firm religious faith, shared with the Potter his captivity. The old man and the girls sustained each other, and awaited death together.

Outside the prison doors, France was in tumult. News came to Paris of the gallant exploits of the little band of knights and soldiers led by Henry, King of Navarre, and his friend Sully. Poor enough in purse, and with a little army, the King of Navarre was dashing with an unexpected strength into the tide of war, a hero to the Protestants. The Duke of Guise remained the hero of the violent among the orthodox. He scarcely dared be king. A conclave, called the Sixteen, formed itself on his behalf into a wild species of election committee, but he dared not act. He was invited by the Sixteen to Paris, and by the king forbidden entrance to the capital; he came, he was received with frantic applause, yet ventured in a hesitating mood into the king's presence, where the question of his assassination had been the last topic of discussion. In the king's presence, he saw that the whispered argument

was whether he should be suffered to go out alive; but the king feared the people at the palace gates. Guise hastily retiring, placed himself at the disposal of the Sixteen. The king sent troops into the town, the people threw up barricades. There was open insurrection. Guise had all qualities except the boldness needed for a perfect act of usurpation. The revolt, therefore, was stilled for a time without producing revolution. The king's unpopularity among the extreme party of the orthodox which governed Paris was displayed in a way suited to the times. Superstition introduced into the temple something worse than money-changers. There was placed in one of the churches of Paris a waxen image of the king, executed in accordance with the rites of witchcraft, into which all good Christians were invited to stick pins.

For the death of unsentenced Reformers the Sixteen were clamorous; one of them, Mathieu de Launay, who had at one time been a minister in the Reformed Church, solicited especially the public execution, already too long deferred, of the old Potter. This happened in the year 1588, when Palissy was seventy-nine years old, and the age of King Henry III. was thirty-seven. The king,—starched, frilled, and curled, according to his own fantastic custom, frequently visited the prisons, and felt interest in the old man, whom he regarded as an ancient servant of his mother. Finding that his age would not protect him from the stake, the king one day held with the Potter

this discourse, which has been preserved for us in a contemporary record.*

“My good man,” said the king, “you have been forty-five years in the service of the queen, my mother, or in mine, and we have suffered you to live in your own religion, amidst all the executions and the massacres. Now, however, I am so pressed by the Guise party and my people, that I have been compelled in spite of myself to imprison these two poor women and you; they are to be burnt to-morrow, and you also, if you will not be converted.”

“Sire,” answered the old man, “the Count de Maulevrier came yesterday, on your part, promising life to these two sisters, if they would each give you a night. They replied that they would now be martyrs for their own honour, as well as for the honour of God. You have said several times that you feel pity for me; but it is I who pity you, who have said ‘I am compelled.’ That is not speaking like a king. These girls and I, who have part in the kingdom of heaven, we will teach you to talk royally. The Guisarts, all your people, and yourself, cannot compel a Potter to bow down to images of clay.”

The girls were burnt a few months afterwards, in June 1588. The news of their death reaching the Huguenot camp, Monsieur du Plessis said to the King of Navarre, shortly to be King Henry IV. of France: “Courage, sire, since even our girls can face death for the Gospel.”

* Confession de Sancy, chap. vii. In D'Aubigné's Hist. Univ., part iii., book iii., chap. i., the same story is told more briefly.

King Henry III., having relieved himself, by assassination, of the Duke of Guise and his brother, their surviving sister took secure revenge. Instructed by her, a monk named Clement, kneeling before the throne in supplicating attitude, stabbed the king in the belly. The monk was of course promptly slaughtered by the guards. The king was stabbed to death, and perished thus in the year 1589.

The murder of the king was counted as a holy deed by the fierce Guisarts, who set up a statue of the murderer for public adoration, having this inscription on the pedestal: "St. Jaques Clement, pray for us sinners." In the same year Palissy the Potter died in the Bastille.

THE END.

APPENDIX.

APPENDIX.

NOTE A.

DATE OF THE BIRTH OF PALISSY.

IN the preceding narrative I have assumed the year 1509 as the date of the birth of Palissy; no grounds exist for adhering positively to that or any other year. D'Aubigné says in his History, first published in the years 1616-19, when speaking of the year 1589, which is unquestionably the date of Bernard's death, "Mathieu de Launay solicited that the aged Bernard, inventor of excellent pottery, should be brought to execution; but the Duke de Mayenne caused his suit to be prolonged, and *his age of ninety years* performed for him the work of death in the Bastille."

If Palissy died at the age of ninety, he was in every stage of his life ten years older than he has been represented in the narrative. The date of his exploration of the salt-marsh is ascertainable by reference to edicts, and is certainly the year 1543. When Henry III., speaking to Palissy in prison in the year 1588, tells him that he has been forty-five years in the royal service, he refers back to that same year 1543 in which Palissy first received a commission to perform work for the crown. That survey of the marshes took place early in the history of Bernard's struggles as a potter, and it is not easy to suppose that he was then already forty-five years old, and eighty-five in the year 1584, when the Sieur de la Croix du Maine wrote concerning him from personal observation that he was then lecturing at Paris, *aged sixty years and upwards*.

Our judgment between these discrepancies is much assisted by the fact that D'Aubigné could not have taken much pains to find out the exact ages of the persons about whom he wrote; where we are not in uncertainty a reference to his History shows that we should now and then, if we followed him in such matters, be grievously misled. To the old age of the Cardinal de Bourbon, for example, D'Aubigné adds no less than fourteen years. We are not bound, therefore, because D'Aubigné has said it, to believe that Palissy died at the age of ninety.

Referring, then, to the year 1584, when La Croix du Maine speaks of Bernard Palissy as being a lively man, sixty years old and upwards, we have to consider how much "upwards." Sixty years old would not do, for if he were sixty in 1584, he would have been only twenty-one when he surveyed the salt-marshes; and he was then married and settled, after having spent not a few years in travel as a glass-painter, residing several years and following his business in a single town. According to the birth-date assumed in the narrative, Palissy was fifteen years older than sixty in the year 1584; nevertheless, when we call to mind the vigour both of mind and body by which Palissy had always been distinguished, we find nothing surprising in the fact that at the age of seventy-five he should have been described from personal opinion as a man of "sixty years and upwards." After four years' confinement of Palissy's free limbs in the Bastille, and after he had breathed for four years the unwholesome atmosphere of a prison, as prisons were three hundred years ago, there might seem to be added fourteen instead of four years of infirmity to the preceding seventy-six years of health. Palissy was eighty years old at his death, according to the theory adopted in these pages, and might well, with his face wasted and paled by privation, set in his white hair (for that had been white when his last book was published), die like an old man of ninety in his prison.

Guided, then, by the statements of La Croix du Maine and D'Aubigné, without adopting either, it is possible to reconcile them both. We know that Palissy travelled for some years before his settlement in Saintes, that at Saintes he attempted to live by his old calling before attempting anything in pottery, while he had begun his attempts in pottery, and had children to care for, before he was called upon to survey the salt-marshes; we may therefore think it reasonable to sup-

pose that his age, when he made the survey, was about thirty-four, and that if so, he may have married at the age of twenty-seven. Various considerations of this kind, tedious to relate, which arise out of the facts and known dates in Bernard's life, have thus led to the belief that the year 1509, if not the precise date of the birth of Palissy, cannot be far wrong. If Palissy was not born in the year 1509, the true date must be one, two, three, or four years earlier.

NOTE B.

TRAVELS OF PALISSY.

THE following, among other passages to be found in the works of Palissy, refer to places visited by him. The reference in each case is to a page in the edition of the works of Palissy published in 1844 :

“ One day when I was in the islands of Xaintonge on the way from Marennes to Rochelle, I observed a ditch, &c.” Page 37.

“ Once when I was at Tours during the *grands jours de Paris*, which were then held at the said Tours, there was a Grand-Vicar, &c.” Page 17.

“ You will find in the churches of Poitou and Brittany an infinite number of glasses which are corroded on the outside by the injuries of time, &c.” Page 50.

“ There are in France more than four thousand noble houses in which the said convenience might easily be found, especially along the rivers, as you might say along the river Loire, the Gironde, the Garonne, the Lot, the Tar, &c.” Page 58.

A description of the Pont de Gard, in Languedoc, and allusion to the town of Nismes, apparently from personal recollection. Page 145.

“ I have never seen a stranger come into the district of Bigorre to live there, who has not soon afterwards taken a fever.” Page 148.

“ I lived some years at Tarbes, principal town of Bigorre.” Page 153.

Alluding to the waters of Spa, Palissy says :—“ There are in many villages of the district of Liege springs of the same quality. But the inhabitants of Spa were among the first in announcing theirs, whence they derive great profit. * * In the Ardennes many of the springs must be equally good, because the yellow clays there testify that iron mines abound.” Page 154.

"I have often seen such thick vapours rising in the district of the Ardennes, and they who saw them at the same time with me said that we should soon have rain, being well assured that the said vapours would dissolve into water. I have seen on the Pyrenees such vapours many times arising, which on the heights were frosted into snows, and very shortly afterwards the said snows covered all the land." Page 164.

"There are to be seen in many parts of France, especially at Nantes, bridges of wood, before which, &c." Page 173.

The whole essay on the bore in the Dordogne (pages 184-187) shows minute personal acquaintance with the rivers Dordogne and Garonne in the lower part of their courses.

"I have one which I showed to the master-mason of the fortifications of Brest in Lower Brittany, who assured me, &c." Page 219.

"I have seen cleverer tricks done in a little town of Poitou, where there was a doctor, &c." Page 228.

"The regions of Xaintonge, Gascony, Agen, Quercy, and Toulouse, are very subject to the said worms. * * I undertake to bear witness only about regions that I have frequented." Page 247.

"A stone that I had hewn from a rock near Soubize, a town upon the borders of the sea." Page 276.

"I never saw natural oysters or their shells in greater quantity than they are found petrified in many rocks of the Ardennes." Page 279.

"In the town of Angers there is a master-goldsmith, named Marc Thomaseau, who showed me a flower reduced into stone." Page 284.

"The Pyrenees, where there is found good marble. It is found also at Dinan, which is a cold and rainy district. On the mountains of Auvergne there is found crystal. * * The countries bordering on the Ardennes, especially along the road from Mezières to Antwerp: a thing more marvellous than any other I have seen, for along the river Meuse, in the district of Liege, the said river passes between mountains which, &c." Page 295.

References to the Ardennes are very frequent.

"I have seen the enamellers of Limoges selling, &c." Page 307.

"I have seen all the region of Gascony and the surrounding places, so overstocked with earthen figures, &c." Page 308.

"I had seen marl in the district of Armagnac." Page 325.

"You may easily perceive this in the regions of Valois, Berri, and Champagne, where the said marl is found abundantly, and chalk in still greater abundance." Page 331.

"In Lower Burgundy, there is a certain village, in which men dig for an argillaceous earth, similar to marl." Page 343.

Palissy describes (page 850) the change of vegetation to be observed on traversing France from Paris, northward and southward.

"I was told by the inhabitants of Champagne, Berri and Picardy, that in certain places, &c." Page 356.

The frequent reference to the Ardennes throughout the works of Palissy show that Bernard must have spent some time in that corner of France most remote from the Pyrenees, while in the Upper Pyrenees, at Tarbes, he tells us that he spent some years. From Antwerp in the east, to Brest in the most westerly parts of Brittany; from Brittany to the Pyrenees; along the southern coast through Montpellier and Nismes (both of which towns are mentioned by Palissy); across France between these extreme points, and through Limousin, Perigord, Auvergne, Berri, Burgundy, Champagne, the extent of the travels of Palissy may be traced without difficulty in his writings.

NOTE C.

EDITIONS OF THE WORKS OF PALISSY.

"RECEPTE VERITABLE, par laquelle tous les hommes de France pourront apprendre à multiplier et à augmenter leurs thrésors. Item, ceux qui n'ont jamais eu cognoissance des lettres, pourront apprendre une philosophie nécessaire à tous les habitants de la terre. Item, en ce livre est contenu le dessein d'un jardin autant délectable et d'utile invention, qu'il en fût oncques veu. Item, le dessein et ordonnance d'une ville de forteresse, la plus imprenable qu'homme ouyt jamais parler: composé par maistre Bernard Palissy, ouurier de terre, et inventeur des rustiques figulines du Roy, et de monseigneur le Duc de Montmorency pair et connestable de France; demeurant en la ville de Xaintes. La Rochelle, de l'imprimerie de Barthélemy Berton, 1563."

A copy of this in the royal library at Paris, and the copy in the British Museum, where it is bound up with old tracts on gardening, &c., are the only two copies known to be in existence. On the title-

page is a man labouring heavenward, with a large stone tied to his leg, surrounded by the motto, "POVRETE EMPECHE LES BONS ESPRITS DE PARVENIR." The first part of the title of this work refers playfully to the books published by alchemists. The volume (without pagination) contains 132 pages.

"DISCOURS ADMIRABLES de la nature des eaux et fontaines, tant naturelles qu'artificielles, des métaux, des sels et salines, des pierres, des terres, du feu et des émaux; avec plusieurs autres excellents secrets des choses naturelles. Plus, un traité de la Marne, fort utile et nécessaire à ceux qui se mellent de l'agriculture. Le tout dressé par dialogues, ès quels sont introduits la théorique et la pratique. Par M^e BERNARD PALISSY, inventeur des rustiques figulines du Roy, et de la Royne sa mère. A Paris, chez Martin le jeune, à l'enseigne du Serpent, devant le college de Cambray, 1580."

Copies of this are very rare. It is a neat little 8vo. of 361 pages, with a summary of leading sentences and glossary of scientific terms.

In 1636 the two works were combined and republished in a couple of 8vo. volumes, under the following titles. To the first volume: "LE MOYEN DE DEVENIR RICHE, et la manière véritable par laquelle tous les hommes de la France pourront apprendre à multiplier leurs thrésors et possessions; avec plusieurs autres excellents secrets des choses naturelles, desquels jusques à present l'on n'a ouï. A Paris, chez Robert Fouet, rue S. Jacques, à l'occasion deuant les Mathurins, 1636."

To the second volume: "Seconde partie du MOYEN DE DEVENIR RICHE, contenant les DISCOURS ADMIRABLES de la nature des eaux et fontaines, &c., par M^e BERNARD PALISSY, inventeur des rustiques figulines du Roy."

This was a catchpenny edition, with additions and omissions, by which the heretical Palissy was to be made inoffensive to the orthodox clergy. There is also in this edition the name of Palissy appended to an Epistle to the French People, which is a patchwork composition, made of pieces taken from his other writings, held together by the thread of some bookseller's cutter and contriver. The volumes are respectively of 255 and 526 pages.

No other edition of the works of Palissy appeared until the publication in a handsome quarto of the "ŒUVRES DE BERNARD PALISSY, Revue sur les Exemplaires de la Bibliothèque du Roi, Avec des Notes;

par M. Faujas de Saint Fond, et des Additions par M. Gobet. A Paris. Chez Ruault, Libraire, rue de la Harpe, 1777."

This edition is prefaced with a scanty and careless essay on the life of Palissy, and extracts from the authors who have mentioned him. It is very rich in notes and documents, and forms a handsome volume of 730 pages.

Its chief faults are the occasional suppression of plain-speaking passages, and an arbitrary division and arrangement of the writings of Palissy, so that there is no clue in the book by which one might detect their original arrangement. In this edition the "*Déclaration des Abus et Ignorances des Médecins*" is for the first time ascribed to Palissy, and it is there printed in the middle of his works.

The notes and documents in the edition of 1777 manifest great research, for the purpose of throwing light upon the names of obscure men mentioned by Bernard. The book is very learned in recondite matters, and in the preceding pages I have often been indebted to it for information drawn from sources not within the reach of students in this country. That is the whole merit of the book. It provides many little details which assist our comprehension of the works of Palissy, but some of its details are useless, and none of them lead to any large results. The times of Palissy are not illustrated at all; the prefatory researches into the facts of the life of Palissy are so careless, that while the date of the survey of the salt-marshes is set down at 1543, it is said that "about the year 1545" Palissy saw the enamelled cup by which his emulation was excited—a blunder incompatible with any thought at all upon the narrative left to us by the Potter. The volume is further vitiated by the interweaving of conclusions drawn from a work which Palissy most probably did not write, "*The Déclaration des Abus des Médecins*," and which MM. de Saint Fond and Gobet lose no opportunity of pressing into service as their own peculiar, critical discovery. The few allusions to the history of the time are not trustworthy; the Count de la Rochefoucault, for example, is quoted as a Royalist, and the notes on the science and philosophy of Bernard frequently turn right into wrong, do nothing in the way of illustration, and are worthless altogether.

This edition of the works of Palissy is not particularly rare, if I may judge from the facility with which a (second-hand) copy was found for

me in Paris, through the agency of Mr. Nutt. Its cost, whole bound, was twelve shillings.

A much better edition of the works of Palissy, in a neat small 8vo. volume (pp. 477), priced at about five shillings—the last that has been issued—is entitled: “*ŒUVRES COMPLETES DE BERNARD PALISSY, Edition conforme aux Textes originaux imprimés du vivant de l’Auteur; avec des Notes et une Notice Historique. Par Paul-Antoine Cap. Paris, J. J. Dubochet et C^{ie}, Rue de Seine, 33, 1844.*”

The preliminary notice of the life of Palissy in this edition is much fuller and much more correct than in the quarto of 1777. The works are printed without the least alteration from the original editions, and placed in their true sequence. The best of Gobet’s notes, and a few others, are added here and there, while the “*Déclaration des Abus et Ignorances des Médecins*,” which the editor refuses to ascribe to Palissy, is printed in an Appendix, in order that the reader may find nothing omitted.

Of this edition, I am afraid, there are only too many copies in the publisher’s warehouse. The name of Palissy as a writer is so obscure, that the republication of his works in a conscientious edition has fallen almost dead from the press. Since I have hope that among the readers of the preceding narrative there will be some who are induced to place the works of Palissy upon their shelves, it gives me pleasure to know that there exists an edition neat as any lady could desire, and accurate as any scholar could think necessary.

All the editions here mentioned are to be seen in the library of the British Museum. The Museum catalogue adds a Dutch edition of *Le Moyen de Devenir Riche*, said to have been published at Amsterdam in 1655. Such an edition is nowhere else mentioned, and the book there referred to is no more than an old Dutch pamphlet with some trifling similarity of title.

From the Works of

BERNARD PALISSY:

Selected for the Illustration of

HIS LIFE & CHARACTER.

THE ARTIST IN EARTH.

To procure for this discourse more ready comprehension, we shall treat it in the form of Dialogue, in which we will introduce two persons, the one will inquire, the other will reply, as follows:

THEORY.—You promised to teach me the art of Pottery: and when you gave me so long a discourse on the diversities of argillaceous earths, I was very much pleased, thinking that you designed to show me the whole of the said art; but I was quite amazed when, instead of continuing, you put me off until another time, in order to make me forget the affection that I have to the said art.

PRACTICE.—Do you think that a man of sound judgment would thus yield up the secrets of an art which have cost much in the invention? As for me I have resolved on doing no such thing, for I do not know your title to them.

THEORY.—Then there is no charity in you. If you will keep your secret thus close, you will carry it into the

grave, and nobody will get it; so that your end will be accursed: for it is written, that according as each shall have received the gifts of God, so must he distribute them to others: I may conclude from this, if you do not teach what you know of the before-mentioned art, that you abuse the gifts of God.

PRACTICE.—It is not with my art, nor with my secrets, as with many others. I know well that a good remedy against a plague or other pernicious malady ought not to be hidden. The secrets of agriculture ought not to be hidden. The hazards and dangers of navigation ought not to be hidden. The word of God ought not to be hidden. The sciences which are the common servants of the whole republic ought not to be hidden. But with my art of treating earth, and several other arts, it is not so. There are several honourable inventions which are polluted and despised through being too common among men. Also, several things are exalted in the houses of princes and nobles, which, if they were common, would be esteemed no more than old kettles. I beg you to consider awhile our glasses, which, through having been too common among men, have fallen to so vile a price, that the greater part of those who make them live more sordidly than Paris porters. The occupation is noble, and the men who work at it are nobles; but several who exercise that art as gentlemen would gladly be plebeians, and possess wherewith to pay the taxes. Is it not a misfortune that has fallen on the glass-workers of Perigord, Limousin, Xaintonge, Angoulmois, Gascony, Bearn, and Bigorre, where glasses are so much depreciated that they are sold and cried through the villages, by the same people who cry old clothes and old iron, in such a manner that both those who make and those who sell them must work

hard to live? Consider awhile, also, the enamelled buttons (which are an invention so polite), which were at first sold for three francs the dozen. Now, inasmuch as those by whom they were invented did not keep their invention secret, in a little while afterwards the greediness of gain, or the poverty of persons, caused so large a number to be made, that they were obliged to sell them at a sol the dozen; so they are now come into such contempt that men are ashamed to wear them, and say that they are only fit for nobodies, because they have become too cheap. Have you not seen, too, the enamellers of Limoges, who, for want of having kept their invention secret, have caused their art to become so vile that they can hardly get a living at the price they put upon their works. I assure you I have seen given at three sols a dozen the figured badges worn on caps, which badges were so well laboured, and their enamels so well melted over the copper, that no picture could be prettier. And that has not occurred once only, but more than a hundred thousand times; and not in the case only of those badges, but of ewers, salt-cellars, and all other kinds of vessels and other affairs that they have undertaken to make: a matter much to be regretted. Have you not seen, too, how the engravers have damaged painters and skilled designers? I remember to have seen stories from the life of Our Lady, printed in large outline, according to the invention of a German, named Albert; which stories fell once into such contempt, on account of the abundance in which they were supplied, that each of them was sold for two liards, although admirably designed and drawn.*

* By Albert Durer. What would they sell for now? Palissy's diligent editor of 1777, M. Faujas de St. Fond, looked for these

Have you not seen, too, how cast-making has done injury to several clever sculptors? because, after one of them has spent long time over the making of some figure of a prince or princess, or whatever else is excellent, if it should get into the hands of some cast-maker, he will produce the same thing in so large a quantity that neither the name of the creator nor his work shall any more be known; and he will sell the figures at a vile price, on account of the diligence with which the casts are manufactured, to the great regret of him by whom the piece was laboriously chiselled. I have seen such contempt of sculpture, caused by the before-named cast-making, that the whole land of Gascony and surrounding places were full of moulded figures, in baked earth, which had been brought for sale to fairs and markets, and there sold at two liards a-piece; hence it occurred, that at the time when people commenced wearing tight dresses there was a man who was imprisoned and whipped, because he went through the whole town of Toulouse with a bale full of crucifixes, crying, "Crucifixes ! crucifixes !—tightly dressed !"*

You can understand easily from these examples, and from a thousand others like them, that it is more worth while for a man, or a small number of men, to make their profit of an art, while living honestly, than for a number not so very great to inflict such serious damage upon one another, that they have not means to live except by profanation of the arts, and leaving things half made, as we see done commonly

woodcuts, and found them in the king's collection. They form a series of fifteen pictures, the dimensions of each being $10\frac{1}{2}$ by $7\frac{1}{2}$ inches. They bear date 1510 and 1511.

* "*A la Busque.*" Clothed figures of the crucified Saviour were long common in the south of France and Flanders.

in all those parts at which there are too many labourers. Nevertheless, if I thought you would lock up my precious secret as carefully as it requires, I would then let you learn it willingly.

THEORY.—If it please you to teach me, I promise to be as silent as any other man you could instruct.

PRACTICE.—I would do a good deal for you, and would seek your advancement as heartily as if you were my own child, but I fear that in showing you the art of treating earths, I should be pushing you back rather than forward. The reason is, that you have need of two things, without which it is impossible to do anything in pottery. The first is, that you must be wakeful, nimble, handy, and laborious ; secondly, you must have some property, to bear the losses that accrue from practising this art. Now, since you are indigent in both respects, I counsel you to seek some other means of living, more indulgent and less hazardous.

THEORY.—I think that you say these things, not out of the pity that you have for me, but because you find it troublesome to keep your promise and reveal to me the secrets of your art. As for your plea, I know that when you first set yourself to seek the knowledge of the said art, you had not much in your pocket to support the losses and mistakes that you say spring out of its labour.

PRACTICE.—That is true; I had not much in my pocket, but I had means which you do not possess—for I had painting. They thought me, in our country, a better painter than I was, which caused me to be often summoned to draw plans for use in courts of law. Then, when I had such commissions I was very well

paid; besides, I for a long time practised glass-painting, until I was assured that I could earn bread by labour upon earth: also, while exploring for the said art, I was alchemist enough to live upon my teeth, which you would find it troublesome to do. You see, then, how I slipped over the time employed in searching for my art.

THEORY.—I know that you endured much poverty and pain in searching, but it will not be so with me; for that which gave you so much to endure, was the fact that you were entrusted with a wife and children. Then, while beforehand you possessed no knowledge, and were forced to guess your way, through this you were made unable to quit your household to go and learn the art in some shop, and you had no means of engaging servants who might help you somewhat to discover the right way. These drawbacks were the cause of your checks and miseries; but it will not be so with me, because, according to your promise, you will tell me in writing all the means of obviating the losses and hazards of the furnace, also the materials of which your enamels are made, and their proportions, measures, and composition. You doing so, why shall I not make pretty things without being in danger of any loss, provided that your losses serve as an example to protect and guide me in the exercising of your art?

PRACTICE.—Had I employed a thousand reams of paper in writing for you all the accidents that have occurred to me upon my search, you may assure yourself that, however clever you might be, there would occur to you a thousand other crosses which could not be taught by letters, and which, even if you had them written, you would not believe until you should have been thrust by

experience among a thousand troubles. Nevertheless, that you may have no occasion to lay falsehood to my charge, I will here place before you, in their order, all the secrets that I have discovered in the art of pottery, together with the compositions and different effects of enamels; I will tell you, also, the diversities in argillaceous earths, which will be a point that you ought well to note. Then, in order that you may the better understand these things, you shall have a discourse commencing with my first efforts after I had made it my duty to seek for the said art; and thereby you will hear the calamities that I endured before I could accomplish my design. I think that when you shall properly have heard the whole, you will feel little desire to follow my profession, and assure me that as much as you now seek to enter, you will then endeavour to avoid its precincts; because you will perceive that one cannot pursue, or put in execution any design, to work it out with beauty and perfection, except with great and extreme labour, that does not come alone, but is always accompanied by an army of anxieties.

THEORY.—I am a natural man like yourself; and since these things have been possible to you without a teacher, to me they will be much more easy, when I shall have obtained from you a complete discourse on the whole method of acting, and the means by which you have attained success.

PRACTICE.—According to your request, learn that it is more than five-and-twenty years since there was shown to me an earthen cup, turned and enamelled with so much beauty, that from that time I entered into controversy with my own thoughts, recalling to mind several suggestions that some people had made to me in

fun, when I was painting portraits. Then, seeing that these were falling out of request in the country where I dwelt, and that glass-painting was also little patronised, I began to think that if I should discover how to make enamels, I could make earthen vessels and other things very prettily, because God had gifted me with some knowledge of drawing; and thereafter, regardless of the fact that I had no knowledge of clays, I began to seek for the enamels, as a man gropes in the dark. Without having heard of what materials the said enamels were composed, I pounded, in those days, all the substances which I could suppose likely to make anything; and having pounded and ground them, I bought a quantity of earthen pots, and after having broken them in pieces, I put some of the materials that I had ground upon them, and having marked them, I set apart in writing what drugs I had put upon each, as a memorandum; then, having made a furnace to my fancy, I set the fragments down to bake, that I might see whether my drugs were able to produce some whitish colour: for I sought only after white enamel, because I had heard it said that white enamel was the basis of all others. Then, because I had never seen earth baked, nor could I tell by what degree of heat the said enamel should be melted, it was impossible for me to get any result in this way, though my chemicals should have been right; because, at one time the mass might have been heated too much, at another time too little; and when the said materials were baked too little or burnt, I could not at all tell the reason why I met with no success, but would throw blame on the materials, which sometimes, perhaps, were the right ones, or at least could have afforded me some hint for the accomplishment of my intentions,

if I had been able to manage the fire in the way that my materials required. But again, in working thus, I committed a fault still grosser than that above named: for in putting my trial-pieces in the furnace, I arranged them without consideration; so that if the materials had been the best in the world, and the fire also the fittest, it was impossible for any good result to follow. Thus, having blundered several times at a great expense, and through much labour, I was every day pounding and grinding new materials, and constructing new furnaces, which cost much money, and consumed my wood and my time.

When I had fooled away several years thus imprudently with sorrow and sighs, because I could not at all arrive at my intention, and remembering the money spent, I resolved, in order to avoid such large expenditure, to send the chemicals that I would test to the kiln of some potter; and having settled this within my mind, I purchased afresh several earthen vessels, and having broken them in pieces, at was my custom, I covered three or four hundred of the fragments with enamel, and sent them to a pottery distant a league and a half from my dwelling, with a request to the potters that they would please to permit those trials to be baked within some of their vessels: this they did willingly; but when they had baked their batch, and came to take out my trial-pieces, I received nothing but shame and loss, because they turned out good for nothing; for the fire used by those potters was not hot enough, and my trials were not put into the furnace in the required manner and according to my science. And because I had at that time no knowledge of the reason why my experiments had not succeeded, I threw the blame (as I before said)

on my materials ; and beginning afresh, I made a number of new compounds, and sent them to the same potters, to do with as before ; so I continued to do several times, always with great cost, loss of time, confusion, and sorrow.

When I saw that I could not at all in this way come at my intention, I took relaxation for a time, occupying myself in my art of painting and glass-working, and comported myself as if I were not zealous to dive any more into the secret of enamels. Some days afterwards, there arrived certain commissaries, deputed by the king to establish the gabelle in the district of Xaintonge, who appointed me to map the islands and the country surrounding all the salt-marshes in our part of the world. Then, when the said commission was ended, and I found myself paid with a little money, I resumed my affection for pursuing in the track of the enamels ; and seeing that I had been able to do nothing, whether in my own furnaces or in those of the before-mentioned potters, I broke about three dozen earthen pots—all of them new ; and having ground a large quantity of different materials, I covered all the bits of the said pots with my chemicals, laid on with a brush : but you should understand, that in two or three hundred of those pieces there were only three covered with each kind of compound. Having done this, I took all these pieces and carried them to a glass-house, in order to see whether my chemicals and compounds might not prove good when tried in a glass-furnace. Then, since these furnaces are much hotter than those of potters', the next day when I had them drawn out, I observed that some of my compounds had begun to melt ; and for this cause I was still more encouraged to search for the

white enamel, upon which I had spent so much labour.

Concerning other colours I did not give myself any trouble; this little symptom, which I then perceived, caused me to work for the discovery of the said white enamel for two years beyond the time already mentioned, during which two years I did nothing but go and come between my house and the adjacent glass-houses, aiming to succeed in my intentions. God willed that when I had begun to lose my courage, and was gone for the last time to a glass-furnace, having a man with me carrying more than three hundred kinds of trial-pieces, there was one among those pieces which was melted within four hours after it had been placed in the furnace, which trial turned out white and polished in a way that caused me such joy as made me think I was become a new creature; and I thought that from that time I had the full perfection of the white enamel, but I was very far from having what I thought. This trial was a very happy one in one sense, but very unhappy in another—happy, because it gave me entrance upon the ground which I have since gained; but unhappy, because it was not made with substances in the right measure or proportion. I was so great an ass in those days, that directly I had made the said enamel, which was singularly beautiful, I set myself to make vessels of earth, although I had never understood earths; and having employed the space of seven or eight months in making the said vessels, I began to erect for myself a furnace like that of the glass-workers, which I built with more labour than I can tell; for it was requisite that I should be the mason to myself, that I should temper my own mortar, that I should draw the water with which it

was tempered; also it was requisite that I should go myself to seek the bricks and carry them upon my back, because I had no means to pay a single man for aid in this affair. I succeeded with my pots in the first baking, but when it came to the second baking, I endured suffering and labour such as no man would believe. For instead of reposing after my past toil, I was obliged to work for the space of more than a month, night and day, to grind the materials of which I had made that beautiful enamel at the glass-furnace; and when I had ground them, I covered therewith the vessels that I had made: this done, I put the fire into my furnace by two mouths, as I had seen done at the glass-houses; I also put my vessels into the furnace, to bake and melt the enamel which I had spread over them; but it was an unhappy thing for me, for though I spent six days and six nights before the said furnace, feeding it with wood incessantly through its two mouths, it was not possible to make the said enamel melt, and I was like a man in desperation. And although quite stupefied with labour, I counselled to myself, that in my enamel there might be too little of the substance which should make the others melt; and, seeing this, I began, once more, to pound and grind the before-named materials, all the time without letting my furnace cool: in this way I had double labour, to pound, grind, and maintain the fire. When I had thus compounded my enamel, I was forced to go again and purchase pots, in order to prove the said compound—seeing that I had lost all the vessels which I had made myself. And having covered the new pieces with the said enamel, I put them into the furnace, keeping the fire still at its height; but thereupon occurred to me a new misfor-

tune, which caused great mortification—namely, that the wood having failed me, I was forced to burn the palings which maintained the boundaries of my garden; which being burnt also, I was forced to burn the tables and the flooring of my house, to cause the melting of the second composition. I suffered an anguish that I cannot speak, for I was quite exhausted and dried up by the heat of the furnace,—it was more than a month since my shirt had been dry upon me. Further to console me, I was the object of mockery; and even those from whom solace was due, ran crying through the town that I was burning my floors! And in this way my credit was taken from me, and I was regarded as a madman.

Others said that I was labouring to make false money, which was a scandal under which I pined away, and slipped with bowed head through the streets, like a man put to shame: I was in debt in several places, and had two children at nurse, unable to pay the nurses; no one gave me consolation, but, on the contrary, men jested at me, saying it was right for him to die of hunger, seeing that he had left off following his trade. All these things assailed my ears when I passed through the street; but for all that there still remained some hope which encouraged and sustained me, inasmuch as the last trials had turned out tolerably well, and thereafter I thought that I knew enough to get my living, although I was far enough from that (as you will hear afterwards); and you must not be discontented if I make a rather long discourse, to make you more attentive to the matters which concern your interest.

When I had dwelt with my regrets a little because there was no one who had pity upon me, I said to my soul:

Wherefore art thou saddened, since thou hast found the object of thy search? Labour now, and the defamers will live to be ashamed. But my spirit said again: You have no means wherewith to continue this affair; how will you feed your family, and buy whatever things are requisite to pass over the four or five months which must elapse before you can enjoy the produce of your labour? Then, when I was thus seized with sorrow and debating in my spirit, hope gave me a little courage; and having considered that it would take me too long to produce a batch entirely with my own hands, and more promptly to cause to appear the secret which I had discovered of the white enamel, I took a common potter and gave him certain drawings, in order that he might make vessels in accordance with my own designs, and whilst he made these things, I occupied myself over some medallions; but this was a pitiable thing, for I was forced to maintain the said potter in a tavern upon credit, because I had no means whatever in my house. When we had laboured for the space of six months, and it was required to bake the finished work, I had to make a furnace and discharge the potter, to whom, for want of money, I was forced to give part of my clothes for wages. Then, because I had not any materials for the erection of my furnace, I began to take down that which I had built after the manner of the glass-workers, in order to use the materials again. Then, because the said furnace had been so strongly heated for six days and nights, the mortar and the brick in it were liquified and vitrified in such a manner, that in loosening the masonry I had my fingers bruised and cut in so many places that I was obliged to eat my pottage with my fingers wrapped in rags. When I had

pulled down the said furnace, it was requisite to build the other, which was not done without much difficulty; since I had to fetch for myself the water and the mortar, and the stone, without any aid, and without any repose. This done, I submitted the before-named work to the first baking, and then, by borrowing, or in other ways, I found means to obtain materials for making the enamel for the covering of the said work, which turned out well from the first baking; but when I had bought the said materials, there followed a labour for me which appeared to baffle all my wits; for after I had wearied myself, through several days, in pounding and calcining my chemicals, I had to grind them, without any aid, in a handmill which it usually required two strong men to turn: the desire that I had to succeed in my enterprise, made me do things which I should have esteemed impossible. When the said colours were ground, I covered all my vessels and medallions with the said enamel—then, having put and arranged them all within the furnace, I began to make the fire, thinking to draw out of my furnace three or four hundred livres, and continued the said fire until I had some sign and hope of my enamels being melted, and of my furnace being in good order: the next day, when I came to draw out my work, having previously removed the fire, my sorrows and distresses were so abundantly augmented that I lost all countenance; for, though my enamels were good, and my work was good; two accidents had happened to the furnace, which had spoilt all; and that you may be cautious against them, I will tell you what they were: also, after these, I will tell you a number of others, that my misfortune may to you be fortune, and my loss your gain. It

was because the mortar, of which I had built my furnace, had been full of flints, which, feeling the vehemence of the fire (at the same time that my enamels had begun to liquefy), burst into several pieces, making a variety of cracks and explosions within the said furnace. Then, because the splinters of these flints struck against my work, the enamel, which was already liquefied and converted into a glutinous matter, retained the said flints, and held them attached on all sides of my vessels and medallions, which, except for that, would have been beautiful. So, knowing that my furnace was tolerably warm, I let it cool until the next day; then I was more concerned than I can tell you, and not without cause, for my furnace cost me more than twenty-six gold dollars; I had borrowed the wood and the chemicals, and so had borrowed part of my hope of food in making the said work. I had held my creditors in hope that they would be paid out of the money which would proceed from the pieces made in the said furnace; which was the reason why several began to hasten to me after the morning when I was to commence the drawing of my batch. Yet by this means, my sorrows were redoubled: inasmuch as, in drawing the said work, I received nothing but shame and confusion; for my pieces were all bestrewn with little morsels of flint, that were attached so firmly to each vessel, and so combined with the enamel, that when one passed the hand over it, the said flints cut like razors: and although the work was in this way lost, there were still some who would buy it at a mean price; but, because that would have been a decrying and abasing of my honour, I broke in pieces the entire batch from the said furnace, and lay down in melancholy—not without

cause, for I had no longer any means to feed my family: I had nothing but reproaches in the house; in place of consolation they gave me maledictions; my neighbours, who had heard this affair, said that I was nothing but a fool, and that I might have had more than eight francs for the things that I had broken; and all this talk was brought to mingle with my grief.

When I had remained some time upon the bed, and had considered within myself, that if a man should fall into a pit, his duty would be to endeavour to get out again; I, being in like case, set myself to make some paintings, and in various ways I took pains to recover a little money; then I said within myself, that my losses and hazards were all past, and there was no longer anything to hinder me from making good pieces; and I betook myself (as before) to labour in the same art. But in heating another furnace there occurred an accident of which I had not thought; for the vehemence of the flame of fire had carried a quantity of ashes against my pieces; so that in those parts which had been touched by the ashes, my vessels were rough and ill-polished; because the enamel, being liquefied, had united with the said ashes. In spite of all these losses, I remained in hope of remounting in fortune by means of the said art; for I caused to be made, by certain potters, a large number of earthen lanterns, to contain my vessels when I put them in the furnace; in order that, by means of the said lanterns, my vessels might be protected from the ash. The invention proved a good one, and has served me to the present day. But having guarded against risk from ashes, other faults and accidents occurred; as, when I had made a batch, it might prove to be too much baked, or another time too little,

and all would be lost in that way. I was so inexperienced, that I could not discern the too much, or too little. One time my work was baked in front, but not baked properly behind; another time I tried to obviate that, and burnt my work behind, but the front was not baked at all; sometimes it was baked on the right hand, and burnt on the left; sometimes my enamels were put on too thinly, sometimes they were too thick, which caused me great losses; sometimes, when I had in the furnace enamels different in colour, some were burnt before the others had been melted. In short, I blundered for the space of fifteen or sixteen years. When I had learnt to guard against one danger, there came another about which I had not thought. During this time I made several furnaces, which caused me great losses before I understood the way to heat them equally. At last I found means to make several vessels of different enamels intermixed in the manner of jasper. That fed me for several years; but, while feeding upon these things, I sought always to work onward with expenses and disbursements—as you know that I am doing still. When I had discovered how to make my rustic pieces,* I was in greater trouble and vexation than before: for having made a certain number of rustic basins, and having put them to bake, my enamels turned out some beautiful and well melted, others ill melted; others were burnt, because they were composed of different materials, that were fusible in different degrees—the green of the lizards was burnt before the colour of the serpents was melted; and the colour of

* Small models of the wild animals, reptiles, &c., of the country, were these “rustic” pieces, coloured after nature. Rustic basins were the bowls or plates, about which they were introduced as ornaments.

the serpents, lobsters, tortoises, and crabs, was melted before the white had attained any beauty. All these defects caused me such labour and heaviness of spirit, that before I could render my enamels fusible at the same degree of heat, I thought I should be at the door of my sepulchre. Also, while labouring at such affairs, I was, for the space of ten years, so wasted in my person, that there was no form nor prominence of muscle on my arms or legs; also the said legs were throughout of one size, so that the garters with which I tied my stockings, were at once, when I walked, down upon my heels, with the stockings too. I often walked about the fields of Xaintes considering my miseries and weariness, and, above all things, that in my own house I could have no peace, nor do anything that was considered good. I was despised and mocked by all; nevertheless, I always made some vessels of different colours, which kept house tolerably; but, in doing this, the diversities of earth, with which I thought to forward myself, brought me more loss in a little time than all the accidents before. For having made several vessels of different earths, some were burnt before the others were baked; some received the enamel, and proved afterwards extremely suited to my purpose; others deceived me in all my enterprises. Then, because my enamels did not work well together on the same thing, I was deceived many times; whence I derived always vexation and sorrow. Nevertheless, the hope that I had caused me to proceed with my work so like a man, that often, to amuse people who came to see me, I did my best to laugh, although within me all was very sad.

I pursued my affairs in such a manner that I received a

good deal of work from one part of my business, which succeeded well; but I had another affliction, allied with the before-named, which was that the heat, the cold, the winds, and rains, and droppings, spoilt the largest portion of my work before I baked it; so that I was obliged to borrow carpentry, laths, tiles, and nails to make shift with. Then, very often having nothing wherewith to build, I was obliged to make shift with green boughs and sticks. Then again, when my means augmented, I undid what I had done, and built a little better; which caused some artisans, as hosiers, shoemakers, sergeants, and notaries, a knot of old women—all those, without regarding that my art could not be exercised without much space, said that I did nothing but boggle, and blamed me for that which should have touched their pity, since I was forced to use things necessary for my house to build the conveniences which my art required; and what is worse, the incitement to the said mockeries proceeded from those of my own house, who would have had me work without appliances—a thing more than unreasonable. Then the more the matter was unreasonable, the more extreme was my affliction. I have been for several years, when, without the means of covering my furnaces, I was every night at the mercy of the rains and winds, without receiving any help, aid or consolation, except from the owls that screeched on one side, and the dogs that howled upon the other; sometimes there would arise winds and storms, which blew in such a manner up and down my furnaces that I was constrained to quit the whole with loss of my labour, and several times have found that having quitted all, and having nothing dry upon me because of the rains which had fallen, I would go to bed at midnight or near

dawn, dressed like a man who has been dragged through all the puddles in the town, and turning thus to retire, I would walk rolling, without a candle, falling to one side and the other like a man drunk with wine, filled with great sorrows, inasmuch as having laboured long I saw my labour wasted; then, retiring in this manner soiled and drenched, I have found in my chamber a second persecution worse than the first, which causes me to marvel now that I was not consumed with suffering.

THEORY.—Why do you make me out so long a tale? It is rather to divert me from my intention than to assist it. You have given me an excellent discourse upon the accidents which happen in the art of pottery, but that is of no use unless to scare me, for of the enamels you have told me nothing yet.

PRACTICE.—The enamels which I use are made of tin, lead, iron, steel, antimony, sapphire of copper, sand, the herb glass-wort, ashes of tartar, litharge, stone of Perigord.* Those are the materials proper for the making of my enamels.

THEORY.—But sec, now, when you tell me that, you tell me nothing; for I have already found from your statements that you lost much before you mixed the enamels in a right proportion; therefore, you know very well that if you do not give me the proportions, I shall not know what to do with my knowledge of the materials.

PRACTICE.—The errors I committed in mixing the proportions of my enamels, gave me knowledge of more than of what things were not suitable. Therefore I am of opinion that you should work to find the said proportions, as I have done; otherwise you will have

* Manganese.

science too cheap, and perhaps that may cause you to despise it : for I know well, that there are no people in the world who give easy bargains of their mysteries and their arts, excepting those who got them at almost no cost; but they who have practised them through great expense and toil, do not part with them so lightly.

THEORY.—You would have me regard these things as wonderfully excellent. If it were some great science, of which we were in great need, you might then preach its excellence; but you esteem so highly a mechanical art, which can be easily dispensed with.

PRACTICE.—That is a statement out of which I now perceive that you are unworthy to hear anything of the mystery of the said art; and since you call it a mechanical art, you shall know no more of it by my means. It is well known that in the said art there are some parts mechanical, as the kneading of the earth; there are some branches of it which produce vessels for the ordinary service of the kitchen, without any exact form or measure: they may be called mechanical; but forasmuch as concerns the government of the fire, it ought not to be compared with anything mechanical. For you must know, that to manage properly a batch of work, especially when it is enamelled, the fire must be regulated by a philosophy so careful, that there is no wit so fine as to find no labour in it and avoid being frequently deceived. As for the manner of arrangement in the furnace, it requires a peculiar geometry.

Item.—You know that there are made in several places earthen vessels, which are adjusted in so geometrical a way, that a great vessel is supported on a little foot, even while yet the clay is soft: do you call that mechanical? Do you not know that measuring by the compass ought

not to be called mechanical, for being very common, or because the workmen so engaged are poor? Nevertheless, the arts which require compass, rules, numbers, weights and measures, ought not to be called mechanical. And since you will thus rank as mechanical the art of treating earth, and scarcely esteem its utility, I will now make you understand how it is greater than I am able to explain. Consider a little, how many arts would be useless, if not altogether lost, without the art of treating earth. The refiners of gold and silver must cease from their work, for they could do nothing without furnaces and earthen vessels; inasmuch as no stone or other matter could be found, which might serve to contain melting metals, if there were no vessels of earth.

Item.—The glass-workers must cease from their work; for they have no means of melting the ingredients of their glass, if not in vessels of earth. The goldsmiths, founders, all melting of whatever sort or kind it may be, would be at an end, and there would not one be found who could dispense with clay. Look also at the forges of the farriers and locksmiths, and you will see that all the said forges are made of bricks; for if they were of stone, they would be soon consumed. Look at all the furnaces, you will find they are made of earth; even those who labour upon earths use earthen furnaces, as tilers, brick-makers, and potters: in short, there is no stone, mineral, or other matter, which could serve for the building of a furnace for glass, lime, or any of the before-named purposes, which would last for any length of time. You see also how useful common earthen vessels are to the community, you see also how great is the utility of earth for the covering of houses. You know

that in many regions they know nothing of slate, and have no other covering than tiles: how great do you suppose to be the utility of earth in making conduits from our fountains? It is well known that the water which flows through earthen pipes is much better and wholesomer than that which has been brought through leaden channels. How many towns are there, think you, built of bricks, inasmuch as there were no means of getting stone to build them with? How, think you, did our ancestors estimate the usefulness of the art of treating earth?

It is well known that the Egyptians and other nations have caused many sumptuous buildings to be constructed by the art of treating earth: there have been several emperors and kings, who have caused to be built great pyramids of earth, in order to perpetuate their memory; and some of them have done this, fearing that their pyramids would be crumbled by fire, if they had been of stone. Then, knowing that fire was powerless against the buildings of baked earth, they had them built of bricks; witness the children of Israel, who were marvellously oppressed while making bricks for the said buildings. If I would put in writing all the uses of the art of treating earths, I never should have done; wherefore I leave you to think within yourself the remainder of its uses. As for its reputation, if it be now despised, it has not always been so. Historians certify to us, that when the art of treating earth was invented, vessels of marble, alabaster, chalcedony, and jasper, were cast into contempt; that even many earthen vessels were consecrated to the service of the temples.

THE POTTER'S CLAY.

BETWEEN the different kinds of argillaceous earths there is so great a difference, the one from the other, that it is impossible for any man to be able to relate the contrariety that is among them. Some are sandy, white and very thin, and for these reasons a great fire is needed before they are baked properly. Such kind of earth is very good for making crucibles, because it endures a very great fire; there are other earths which, on account of the metallic substances that are in them, bend and liquefy when they endure great heat. I have seen some tilers' furnaces of which the arches were in such sort liquefied, that the vaults were quite full of pendant forms, as you see the icicles from the gutters of the houses during frosts. There are other kinds, which, when they are baked, whether in pottery or in bricks, it is needful that the master of the work take good heed, in drawing his affair from the furnace, lest it take cold; and what is more, those who work with it are constrained to stop all the vent-holes of their furnace as soon as their batch is baked, because if it felt the very slightest wind in cooling, the pieces

would all turn out cracked. There is a kind at Savigny, in Beauvoisis, which I think has not in France its like; for it endures a marvellous fire, without being at all injured, and has this advantage also, that it allows itself to be shaped more slenderly and delicately than any of the others; and when it is extremely baked, it takes a little vitrificative polish, which proceeds from its own substance; and that causes that the vessels made with the said earth hold water quite as well as glass vessels. There are other kinds of earth which are black in their essence, and when they are baked they are white like paper; other kinds are yellow, and when they are baked they become red. There are some kinds which are of evil nature; because among them there are little stones, which when the vessels are baked, the little stones which are in the said vessels are reduced to lime, and suddenly when they come to feel the humidity of the air, they swell and cause the said vessel to split in the place where they are enclosed, and this is because the said stones were calcined in the baking; and by this means many vessels are lost, however great the labour one may have employed upon them. There are other kinds of earth which are very good, and very well endure the fire; but they are so vain and lax that one cannot make any light vessels of them, because when one would form them a little high, it sinks down towards the bottom, not being able to sustain itself.

It is a general rule, that all argillaceous earths, and especially the finest, are subject to crackle at the fire before they are baked; for this reason, those who work with them are obliged to add to the fire little by little, in order to chase the moisture which is in the work; so

that if the pieces which one bakes are thick, and there are many of them, it will be necessary to maintain the fire sometimes three or four days and nights; and if the work has once begun to heat, and he who shall conduct the fire do fall asleep, and suffer his work to cool before it be baked in perfection, there is no help but the work is lost. And by such accident many potters have had great losses.

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I once saw certain modellers of images, instructed in the art of treating earth by hearsay only, and sufficiently new in the knowledge of earths, who, after having made some images, put them into the furnaces to bake them, according to their understanding. But when they began to put on the large fire, it was a pleasant thing enough (though not a cause of laughter to us all) to hear these images burst, and make a battery between themselves like a multitude of *harquebusades* and discharges of cannon, and the poor master very vexed, like one who had been robbed of his purse; for the day being come for drawing the images out of the furnace, the furnace was no sooner opened than he saw some with cracked heads, others with shattered arms and the legs broken; so that the poor man, having drawn his images, was much disturbed, and had trouble enough to find the pieces; for some were as small as flies, and not being able to get them together, he was often obliged to make knobs for flags and other matters out of the said images.

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Once I had collected some of the earth of Poitou, and had laboured upon this for the full space of six months before I had my batch complete; because the vessels that I had

made were very elaborate, and of a somewhat high price. Now, in making the said vessels of the earth of Poitou, I made some of them of the earth of Xaintonge, on which I had worked for some years before, and was sufficiently experienced in the degree of the fire which was needed by the said earth, and thinking that all earths might bake at a like degree. I baked my work which was earth of Poitou among that of earth of Xaintonge, which caused me a great loss; inasmuch as the work in earth of Xaintonge being baked sufficiently, I thought that the other work would be so too: but when I came to enamel my vessels, those feeling the moisture, it was an unpleasant joke for me; because as many pieces as were enamelled came to dissolve and fall to pieces, as a limestone would do soaked in water; and at the same time, the vessels of the earth of Xaintonge were baked in the same furnace, and at the same degree of heat as the above named, and turned out very well. You see, then, how a man who labours in the art of earth is always an apprentice, because of the unknown nature of the diversities of earth.

THE NATURALIST LOOKING OUT ON EVIL DAYS.*

Question.—Truly you have given me a good account, and a sad one; where do you think to find a place convenient for your design? Would you be fool enough to incur such great expense, for the mere sake of a fine garden?

Answer.—I have told you, upon this point, that there will be found in France more than four thousand granges or noble mansions, near which are fulfilled the conditions necessary for the erection of the before-named garden, and of this there can be no doubt; and as for the expense, which you pronounce to be excessive, you will find more than a thousand gardens in France which have cost more than mine would cost; and then do you regard the cost that is to bring you such delight, and a revenue of laudations?

Question.—Good; but one might have greater pleasure, and would do better, to buy good horses and good armour, to attain some rank and charge in the military art, and then, in traversing the country, many would appear before you to make gifts of lodging, food, and furniture. One man would be giving you a mule, an-

* Palissy, having sketched in a dialogue his idea of a delectable garden, continues as above.

other man a horse, which would come to you at no more cost than the whistling; and so you would get much more pleasure than could be afforded by your garden. Also you might chance to catch a benefice, which you could cause to be held by some cook of a priest, and you would finger the revenues; for I know many who by such means, having purchased their estate of Seneschal of the Long Robe, have come to hold the estate of Seneschal of the Short Robe,* which has been the way in which they have become esteemed and honoured, feared and dreaded. And by such means their purses have been filled with booty; and even in these late troubles you know how some of these men have received large presents for granting favour to the Huguenots, who spared nothing to save their lives, which were closely sought after.

Answer.—The reasons you allege are wicked and unseasonable. You know well that I told you from the first how I would build my garden, to serve me as a city of refuge, a place of retirement in these perilous and evil days; and that I would do this to fly from the iniquity and malice of the world, to serve God with pure freedom; and now you come and tempt me with execrable avarice and evil invention.

And do you think that if a man has bought an office of Seneschal, whether long-robed or short-robed, and has done this through avarice or ambition, that in so doing he becomes a man well off? I know well that some have been the buyers of such greatness, in order that they might be feared, and satisfy their vengeance, and

* Seneschal of the Long Robe was chief of a subaltern court of justice. Seneschal of the Short Robe was first officer of justice in a province.

that they might swell their purses out with presents. Is it therefore to be said that such men are well off? Greatly do they fall short of that.

You know well that Saint Paul says nothing is more vile than the avaricious man. *Item*, it is well known that in many passages of Holy Scripture, it is forbidden to the judges to take gifts, because by gifts the judgment is corrupted; and so I may conclude that there is nothing good in the advice you give me. *Item*, you have told me that if I had bought any authority, whether office of Seneschal or any other, that I might fish up some benefice that I could cause to be held by a cook or a priest.

You advise me then to commit wickedness, simony, and theft, and you know that the revenue of the benefices ought not to be given except to those who will faithfully administer the word of God; and as for others who enjoy themselves on the revenue, they are accursed, damned, and lost. And I can tell you this with certainty, because it is written in the Prophet Ezekiel, chap. 34; for the prophet says, "Woe be to you, shepherds, who eat the fat and clothe you with the wool, and leave my flock scattered upon the mountains; I will require it at your hands."

Is that not a sentence at which these simoniacs should tremble? And in truth, they cause the troubles which we suffer at this day in France; for if they did not fear to lose their Church revenue, they would grant easily enough all other points of Holy Writ. But I can easily judge, by their way of acting, that they have more love and greater reverence for their own bellies, than for the divine majesty of God, before which they will have to give account at the day of his coming; and then they

shall desire to die, and death will flee from them ; and they will say then to the mountains, Mountains, fall upon us, and hide us from the face of this great living God, as it is written in the Apocālypse.

See, therefore, now, whether you have given me good counsel, or advised me rather to my ruin.

Item.—Do you think that these poor wretches have any peace in their own conscience? I venture to say that they and their accomplices, whoever they may be, have always some remorse in their consciences, and that they fear more to die than they who have not had the conscience cauterized; at all events they are not satisfied with either wealth or honour; but if any one should cross them, they will break their hearts to be revenged; and so the poor wretches have no peace, whether in their minds or in their bodies, however fat a kitchen they afford to keep.

For these causes, I have found nothing better than to fly the neighbourhood and the acquaintance of such people, and to withdraw myself to labour on the earth, which is a thing just before God, and a great recreation to those who will contemplate admiringly the wondrous works of Nature. But I have found in the world no pleasure greater than to have a beautiful garden. So God having created the earth for man's service, placed him in a garden which contained several kinds of fruit; and it was for this reason that, contemplating the sense of the 104th Psalm, as I told you before, I was seized formerly with so great an affection for the building of my said garden, that since that time I have done nothing but toil over again, within myself, the building of the same; and often, in sleeping, I have seemed to be about it, as it happened to me last week, that when I was

asleep upon my bed, my garden seemed to be already made, and in the same form that I have described to you, and I already began to eat its fruits, and recreate myself therein; and it seemed to me that walking, in the morning, through the said garden, I came to consider the marvellous deeds which the Sovereign has commanded Nature to perform; and among other things I contemplated the branches of the vines, of peas, and gourds, which seemed as though they had some sense of their weak nature; for being unable to sustain themselves, they stretched certain little arms like threads into the air, and finding some small branch or twig, came to unite and attach themselves, never again to part thence, that they might sustain the parts of their weak nature.

And sometimes, in passing through the garden, I saw a number of the said branches which had nothing whereby to support themselves, and threw their little arms into the air, thinking to grasp something, to sustain a part of their said body; then I came to present to them certain boughs and branches, to aid their weak nature, and having done this in the morning, I found in the evening that the above-named things had cast and entwined many of their arms about the said boughs; then, all astonished at the providence of God, I came to contemplate an authority, which is Saint Matthew, where the Lord says that even the birds shall not fall to the ground without His will. And having passed on farther, I perceived certain branches and creepers of the hopplant, which, though it has neither sight, nor hearing, nor perception, nevertheless has received knowledge from God of the weakness of its nature, and the way in which it should sustain itself, in such manner that

I saw that the said creepers of the said hop bound and entwined many together, and being thus fortified by the companionship of one another, they spread themselves along the length of certain branches, in order to consolidate themselves again together, and attach themselves to the said branches; when I had seen and contemplated such a thing, I could find nothing better than to employ oneself in the art of agriculture, and to glorify God, and to recognise Him in His marvels. And having passed still farther, I perceived certain fruit-trees, which seemed also as if they had some understanding; for they were careful to preserve their fruits, as is the woman for her little child: and among others I perceived the vine, the cucumbers, and melons, which had made for themselves certain leaves with which they covered their fruits, fearing lest they might be injured by the heat. I saw also the rose-trees and the gooseberries, which, for the purpose of repelling those who would deprive them of their fruits, had put on an armour of sharp spines about the said fruit. I perceived also the wheat and other grain, to which the Sovereign had given wisdom for the clothing of their fruit so excellently, that Solomon with all his wisdom never wore so suitable a vesture.

I considered also, that the Sovereign had taught the chestnut to arm and clothe its fruit industriously with a wondrous robe, likewise the filbert, the almond, and many other kinds of fruit-trees; which things occasioned me to fall upon my face, and adore the Living of Living, who has made such things for man's use and service. Then, also, that gave me occasion to consider our miserable ingratitude and perverse wickedness; and the more I entered into the contemplation of these things,

the more I was led by my affections to the art of agriculture, and led to despise these grandeurs and dishonest gains which, at the last, have to be recompensed according to their merits or demerits. And being in such ravishment of spirit, it seemed to me that I was really in the said garden, and that I tasted all the pleasures it contained—not those of the garden only, but of its aspects and surrounding places: for it seemed within me really as if I left the garden to walk in the meadow lying to the south of it, and being there, that I could see play, frisk, and bound, certain lambs, rams, ewes, she-goats, and kids, kicking and skipping, with many strange looks and gestures; and at the same time it seemed to me that I was taking great pleasure in the sight of certain old and decayed ewes, which, feeling their time renewed, and having put off their old robes, were making a thousand leaps and gambols in the said meadow, which was a thing full of pleasure and refreshment.

It seemed to me, also, that I beheld certain rams, which retreated far from one another, and then running with speed and a great stiffness, they came to strike their horns together. I saw also the goats, which, rising on their two hind feet, struck horns together with great violence; also, I saw the little colts and the little calves, which played and pranced near their mothers. All these things gave me so great a pleasure, that I said in myself that men were very foolish so to despise rural places and the art of agriculture, which our ancient fathers, men of might and prophets, were content themselves to exercise, and even to watch the flocks.

It seemed to me, also, that to recreate myself, I walked along the avenues, and under the cover of their foliage

I heard for awhile murmuring the waters of a brook which passed at the foot of the said avenues, and on the other side I heard the voice of the young birds which were upon the trees; and then there came into my memory that hundred and fourth Psalm on which my garden had been founded, where the prophet says: "He sendeth the springs into the valleys, which run among the hills:" also he says, "By them shall the fowls of the heaven have their habitation, which sing among the branches."

It seemed to me, also, that when I was tired of walking in the said meadows, I turned towards the side of the west wind, where the woods and mountains are; and then it seemed to me, that I perceived many things which are deduced and narrated in the said Psalm: for I saw the conies playing, jumping, and bounding along the mountains near to certain pits, holes, and habitations, which the Sovereign Architect had erected for them; and when suddenly the animals perceived one of their enemies, they knew well how to retire into the place which was ordained to be their dwelling.

I saw also the fox, who crept along the thickets, his belly against the earth, to catch some one of those little creatures, to content the desire of his belly. In short, it seemed to me that I had the pleasures of beholding goats, deer, hinds, and kid, along the said mountains, in the same sort, or very near to the way which the Prophet David describes to us in this hundred and fourth Psalm.

Item.—It was to me as if I heard the voice of many virgins who kept their flocks; in like wise it seemed to me that I heard certain shepherds playing melodiously on their flageolots: and then it seemed to me that I said within myself, I marvel at a heap of foolish labourers, who from

the moment that they have acquired a little wealth, which they will have gained with much labour in their youth, are afterwards ashamed to train their children in the state of labourers; so they will make them, on the first occasion, greater than themselves, placing them in professions commonly, and what the poor man will have been earning with great pains and labour, he will in great part spend to make his son a gentleman, which gentleman, at last, will blush to be seen in his father's company, and be displeased if any one shall say he is son to a labourer. And if, by chance, the good man has certain other children, it will be this gentleman who will eat up the rest, and will have the best share, without regard to the expense incurred for him at the schools, while his brothers were cultivating the earth with their father. And, meanwhile, behold the reason why the earth frequently miscarries under evil management; because the misfortune is such that every man asks only to live upon his income, and to leave the cultivation of the earth to the most ignorant—a deplorable thing.

Would that it were so, I said then, that men could have as great zeal, and as much affection for labour upon the earth, as they have affection for the purchase of offices, benefices, and grandeurs; and then would the earth be blessed, and the labour also of her cultivators, and then she would produce her fruits in her season.

Having contemplated all these things, I went to walk towards the side of the east wind, and in walking under the fruit-trees, I received a great contentment and many joyous pleasures; for I saw the squirrels gathering the fruits, and leaping from branch to branch, with many pretty looks and gestures. On the other hand, I

saw nuts gathered by the rooks, who rejoiced in taking their repast, and dining on the said nuts. Again, under the apple-trees I found certain hedgehogs, which had rolled themselves into a round form, and having thrust their little hairs or needles over the said apples, went so burdened.

I saw also the wisdom of the fox, who, finding himself persecuted by fleas, took a mouthful of moss into his mouth, and went to a brook, and having turned his back towards the said brook, he entered little by little, in order to cause all the fleas to escape from his body towards his head; and when they had all fled into his head, the fox immersed himself still by degrees, until they were all gathered on his snout; and when they were upon his snout, he slowly immersed that, until they were collected on the moss which he had taken in his mouth; and when they were upon the moss, he left it, diving suddenly, and came up at a place higher up the stream; and so he left the fleas upon the said moss, which moss served to them as a boat to carry them elsewhere.

I perceived, also, a stratagem which the fox used in my presence, the most acute and subtle that I ever heard related: for he found himself destitute of food, and seeing that it was near dinner-time, and that he yet had nothing ready, he went to lie down in a field close by, and adjoining one end of the wood; and having lain down there, he stretched his limbs upwards, and shut his eyes, and being thus stretched upside down, pretending to be dead*: * * then it happened that a

* I spoil this passage by omitting its most interesting part, in deference to what we call, in England, delicacy. When our minds come to be less coarse, perhaps our delicacy will not be so comprehensive as it is at present.

crow, also in want of dinner, came to place herself upon his belly, thinking that the said fox was dead: * * * but the crow was well outwitted; for at the first blow of her beak * * * the fox griped the crow, who could find no help for herself but to cry coüa: and in that way the subtle fox obtained his dinner, at the cost of her who would have eaten him. All these things have made me such a lover of the fields, that it seems to me that there are no treasures in the world so precious, or which ought to be held in such great esteem, as the little branches of trees and plants, although they are the most despised. I hold them in more esteem than mines of gold and silver. And when I consider the value of the very smallest branch of tree or thorn, I am filled with wonder at the great ignorance of men, who seem, in our day, to study only how to break through, cut down, and destroy the beautiful forests which their predecessors had been guarding as so precious. I should not find it wrong in them to cut the forests down, if afterwards they planted any portion of the soil; but they think not at all of times to come, not considering the great harm they are doing to their children in the future.

Question.—And why do you find it so wrong that forests should be cut down in this manner? There are many bishops, cardinals, priories, and abbeys, monasteries and chapters, which, in cutting forests down, have obtained treble profit. First, they have had money for the wood, and have given some of it to women, children, and men also. *Item*, they have leased the soil of the said forests at a rental, out of which they have reaped much money also in entrance-fees. And afterwards the labourers have sown wheat and seeds every year, of

which wheat they have had always a good portion. You see, therefore, how much more income lands yield than formerly they yielded. For which reason I cannot think that this ought to be found wrong.

Answer.—I cannot enough detest such a thing, and can call it not a fault, but a curse and a misfortune to all France; because when all the woods shall have been levelled, there must be an end of all the arts, and artisans may go and browse on herb, like Nebuchadnezzar. I have sometimes attempted to put down in order the arts that would cease, if there came to be an end of wood; but when I had written a great number of them, I could see no way to an end of my writing; and having considered all, I found that there was not a single one which could be exercised without wood: that all navigation and all fisheries must cease, and that even the birds and several kinds of beasts, which nourish themselves upon fruits, must migrate to another kingdom, and that neither oxen, cows, nor any other bovine animals, would be of service in a country where there was no wood. I had studied to give you a thousand reasons; but this is a philosophy which, when the outside waiters shall have thought about it, they will judge, that without wood it is impossible to exercise any art; and it would even be necessary, if we had no wood, for the office of the teeth to become vacant, and where there is no wood there is no need of wheat nor any other grain for making bread.

I think it a very strange thing that many seigneurs do not compel their subjects to sow some part of their land with acorns, and other parts with chestnuts, and other parts with filberts, which would be a public good, and a revenue that would grow while they were sleeping.

That would be very fit in many parts where they are constrained to amass the excrement of oxen and cows to warm themselves; and in other regions they are obliged to warm themselves and boil their pots with straw: is not this a fault and public ignorance?* If I were seigneur of such lands, so barren of wood, I would compel my tenants to sow trees in at least a part of them. They are much to be pitied: it is a revenue which would come to them while sleeping; and after they had eaten the fruits of the trees, they could be warmed by their branches and their trunks.

I praise greatly an Italian duke, who, some days after his wife had given birth to a daughter, philosophized within himself that wood gave a revenue which grew while one was asleep; therefore, he commanded his servants to plant about his lands a hundred thousand feet with trees, saying thus, that the said trees would be worth twenty sols a-piece before his daughter was of age to marry, and so the said trees would be worth a hundred thousand livres, which was the dowry he projected giving to his daughter. That was a prudence greatly to be praised; I would that many could be found in France who would act in the same manner. There are many here who love the pleasure of the chase, and the frequenting of the woods; but at the same time they take to themselves what they find, without concerning themselves for the future.

Many devour their income as retainers of the court in hectorings, superfluous expenses, as well in accoutrements as in other things: it would be much more useful for them to eat onions with their tenants, and teach

* A hundred and fifty odd years after this was written, it was ordered (May 3, 1720) that trees of all kinds, fitted in each place to the nature of the soil, should be planted throughout France on the borders of the public roads.

them how to live well, set them good example, adjust their disputes, hinder them from ruining themselves with lawsuits, plant, build, trench, feed, sustain, and, at the requisite and necessary time, hold themselves ready to do service to their prince for the defending of their country.

I wonder at the ignorance of men, when I look at their agricultural implements, which ought to be in more request than precious bits of armour: yet for all that, it seems to certain striplings, that if they had handled any implement of agriculture, they would have been dishonoured by it; and a gentleman, however poor he may be, and up to his ears in debt, would be debased in his own eyes if his hands had been for a short time in contact with a plough.

I could wish that the king had founded certain offices, estates, and honours for all those who should invent some good and subtle agricultural tool. If it were so, everybody's mind would have been bent on achieving something. Ingenious men were never in demand at the siege of a town but there were found a few; and precisely as you see men despise the ancient modes of dress, they would despise also the ancient implements of agriculture, and in good sooth they would invent better ones.

Armourers often change the fashion of the halberds, swords, and other harness; but the ignorance in agriculture is so great that it abides ever accustomed to one method; and if the tools were clumsy at their first invention, they preserve them ever in their clumsiness: in one province, one accustomed fashion without any change; in another province, another also without ever changing.

It is not long since I was in the province of Bearn and of

Bigorre; but in passing through the fields, I could not look at the labourers without chafing within myself, seeing the clumsiness of their implements: and why is it that we find no well-born youth, who studies as much to invent tools useful to his labourers, as he takes pains over the cutting of his coat into surprising patterns? I cannot contain myself to talk of these things, considering the folly and the ignorance of men.

Question.—What tools would it require to build such a garden as you have just now described to me?

Answer.—There would be need of all kinds of tools, servants to agriculture; and, because there are columns and other pieces of architecture, there would be need of all kinds of tools proper to geometry.

Question.—I beg you to name these to me in order, as they succeed each other.

Answer.—We have the compass, the rule, the square, the plummet, the level, the bevel, and the astrolabe. Those are the tools necessary to geometry and architecture.

Since we are talking of geometry, let me say, that it occurred to me last week, being asleep about the hour of midnight, to see my geometrical tools in rebellion, one against another, and questioning to which of them belonged to the honour to walk first; and being in this debate, the Compass said: "That honour belongs to me; for it is I who manage and measure everything: also, when one wishes to reprove a man for his superfluous expenditure, he is admonished to live more within compass. So to me belongs the honour of going first." The Rule said to the Compass: "You do not know what you talk about. You can make nothing but a circle; but as for me, I guide all things in a direct way, and

forwards or sideways, or whatever way it be, I cause everything to walk straight before me: also, when a man lives in an ill manner, they say that his life is irregular; which is as much as to say, that without rule he cannot live rightly. Therefore, to me belongs the honour of walking foremost."

Then the Square said: "It is to me that this honour belongs; for when need is, two Rules exist in me: also, it is I who manage the angles and the chief stones of the corner, without which, no building would hold together." Then the Plummet lifted itself up, saying: "I ought to be honoured above you all; for it is I who lead and guide all masonry directly heavenwards, and without me no wall would be straight, for which cause buildings would fall suddenly: also, I often do the office of a Rule; therefore you have to conclude, that to me the place of honour belongs."

This done, the Level rose and said: "Oh, the scoundrels and rascals! it is to me that the place of honour belongs. Do not people know that all the rafters, girders, cross-beams, could not be put to their duty without me? Do not people very well know that I manage all places and pavements as I please? Do not people very well know that many ingenious men have made use of my services in making their mines, trenches, and in pointing their wild cannons? and that without me they could not gain their ends? That is why you must break off and conclude that the due honour ought to rest with me." And immediately after the Level had finished his discourse, there was the Bevel, who leapt up with great quickness, saying: "Make way, make way; you do not know what you are saying: the place of honour appertains to me; for I do deeds that none of you can

do: and I ask you, could you erect a building on a sloping place? And it is well known that you cannot; and you are of no use, and can do nothing but the commonest sort of business: but for me, I go, I come, I make a little thing, I make a great thing,—in short, I do things that none of you can do. Therefore, it is easy to decide that the place of honour belongs to me.”

Then the Astrolabe arose, with a canonical firmness and gravity, and spoke thus: “Would you rob me of the honour that is due? For it is I who mount up higher than you all, great as you may be, and my kingdom and empire stretches to the clouds. Is it not I who measure the stars, and through me that the times and seasons are made known to men, fertility or sterility? And what have you to say to this? Can any one deny the truth of that which I affirm?” And when I heard the noise of their disputes, I aroused myself, and straightway came to see what it might be: then the moment they had seen me, they straightway elected me their judge, to judge upon their cause of quarrel: whereupon I said to them, Do not deceive yourselves, there belongs to you no honour, neither any pre-eminence: honour belongs to man, by whom you have been formed; and for that reason you must serve and honour him.

“What,” they said, “to man! and must we obey and serve man, who is so wicked and full of folly:” then I endeavoured to excuse man, saying that it was not so. They all cried out, saying: Give us leave to measure the head of man, and do you make use of us in this affair, and you will know that man has not a straight line in him, nor certain measure in any part of him, whatever Vitruvius and Sebastian, and other architects, may

have said and demonstrated by their figures. Seeing which, I was seized with a desire to measure the head of a man, to know exactly what his measures were, and it seemed to me that the Bevel, the Rule, and the Compass, were very proper for this business; but, however it might be, I could never find a certain measure, because the follies which were in the said head caused it to change its measures.

Then I was confused, because I found the said head, now of one sort, now of another; and although it presented, occasionally, some appearance of right lines, yet when I applied my tools to figure them, suddenly, and in a moment, I found that the right lines had become oblique; at which I was much astonished, seeing that there was not any right line in a man's head, because his folly caused every right line to deviate and to become oblique. Then I wished to know what manner of follies were in man, which made him to be so deformed and disproportioned; but being unable to know or learn this by geometry, I determined to examine it by an alchemical philosophy, which was the way in which I came suddenly to erect sundry furnaces, proper for this business: some to putrefy, others to calcine; some to examine, others to sublime in; some again for the purpose of distilling.

Which done, I took the head of a man, and having extracted its essence by calcinations and distillations, sublimations, and other examinations made by means of retorts, flasks, and sand-baths, and having separated all terrestrial parts from the exhalative matter, I found that there were truly in man an infinite number of follies, which, when I had perceived, I fell back, as it were, fainting, in consequence of the great exhalation of follies

out of the said head. Then I was taken with a sudden curiosity and longing to know what was the cause of its great follies, and having closely examined my affair, I found that avarice and ambition had turned almost all men foolish, and had, after a manner, rotted all the brain: when I had ascertained this, I was more desirous to investigate the roguish tricks of men than I had been before, which was the reason why I took the head of a Limosin, and having subjected it to examination, I found that he had his head full of follies, and was a great mixer and augments of drugs; so that it was detected that he had bought good pepper in Rochelle at thirty-five sols the pound, and sold it afterwards at seventeen sols, in the fair of Niord, making a great profit in consequence of the adulteration added to the said pepper.

Then I asked why he was so foolish, and without judgment, as to deceive thus wickedly the customers; but without any shame this rascal maintained that the folly of which he was guilty was a piece of wisdom: and I urged upon him then that he was damning himself, and that he could afford better to be poor than damned; but this insensate said that poor men were of no esteem, and that he would not be poor, follow what might: then I was constrained to leave him in his folly.

Afterwards I grasped the head of a young man, without having regard to what might be his condition; and having put his head under examination, I found that the chief part of this was only folly; and having contemplated for a little while this personage, I entered into a dispute with him, inquiring of him, "Brother, who has moved you to cut in this way the good cloth you are wearing in your breeches and other habiliments? Do you not know very well that it is a folly?" But

this insensate wished to make me believe that breeches so cut would last longer than others, a thing I could not believe.

Then I said to him, "My friend, assure yourself of this, and do not doubt it, that the first man who had holes cut in his breeches was a fool by nature; and though, in general matters, you may be the wisest person in the world, yet in this particular you imitate and follow the example of a fool. True it is, that a folly transmitted from our ancestors is esteemed wisdom; but for my part, I cannot agree that such a thing is not a direct piece of folly."

After this I seized me the head of a dirty wife of a king's officer, that is to say, of the long robe, and having exposed it to examination, and having separated the spirit from the earth, I found the above named closely packed with follies in her head; then, thinking to do the duty of a Christian, I said to her, "My dear lady, why is it that you are so perverse in your habiliments? Do you not know very well that clothes are only made in summer to cover the flesh, and in winter for the same reason, and for protection against cold? And you know that the closer to the skin your garments are, the more they retain heat, and the better they serve the ends of modesty; but, on the contrary, you have got to yourself a farthingale, in order to dilate your dress in such a manner, that your garments barely escape exposing what you ought to hide." After I had made her this remonstrance, instead of thanking me, the silly woman called me Huguenot;* seeing which, I left

* The origin of the word "Huguenot" is a vexed question. Some call it a corruption of the German *Eid-genossen* (sworn associates). This notion is first cousin to Minshew's derivation of Haberdasher from the German *Habt ihr das* (have you that).

her and took up her husband's head, and having examined it as usual, I found in it great follies and knaveries ; then I said to him, Why is it that you are so foolish, to trick and pillage people on all sides ? He told me that it was for the maintenance of his estate, and that he could have no peace with his wife if he did not often give her new equipments, and that he was forced to rob in order to maintain his estate and condition. " O fool," I said then, " is your wife to bring you an apple of death, as did the wife of our first father ? It would have been better if you had been married to a shepherd-girl ; your wife will not excuse you when you shall be obliged to stand before the judgment-seat of God."

After that I took the head of a canon, and having made examination of its parts as above, I found that there was more folly in it than in all the others. I asked him then, " Why is it that you are so great an enemy to those who speak of the authority of Holy Writ ?" But he replying said, that if it were not that he should be forced to preach in all his benefices, he would take part with the Protestants ; but since he had not learned to preach, and was accustomed from his youth to live at ease, that caused him to support the Church of Rome. And I said then, " You are very wicked, and you play the hypocrite before your brothers the other canons, who think that you both maintain and believe honestly the statutes of the Roman Church." " No, no," he said, " there is not one of my companions who would not confess the truth, if they had no fear of losing their revenues ; and if it were not for that, there is no man of them who would not eat meat with me in Lent ; and whatever appearance they assume, they only go to mass

for the edification of the kitchen, there is not a doubt of that. If it had not been that the good folks would compel us to go and preach, we could have endured the ministers quietly enough; but for our income's sake, we do our best towards their banishment."

Then I thought that it would be folly in me to attempt to admonish him, considering the answer he had made. Then, to know whether his speech had truth in it, I grasped the head of a president of the chapter; but that was terrible, for it would not endure the test, nor permit that any examination should be made of its affairs: he kicked, he beat, he pranced, he plunged into a black, vindictive choler. Seeing which, I became vexed at him; and, whether he liked it or no, I placed him under examination, and proceeded to separate his parts—that is to say, the black, pernicious choler on one hand, ambition and vain-glory on the other. I put aside, elsewhere, the intestine murder which he used against them that he hated; in short, I thus separated all his parts, as a good alchemist separates the matter of his metals, and asked him: "Will you not cease from your follies? Is it not time to be converted?" "What," he said, "follies? There is no man in this parish wiser than I am. I belong," he said, "to the new religion, when I please, and understand truth as well as any other; but I am wise—I walk in the way of my own time, and do service to those I love, and vengeance on those I hate." "Certainly," I said, "but that is not a Christian life; for we know that the priests ought not to live lewdly." "What, lewd?" said he. "It is true that I have a wife and many children, but she is not lewd—she is my wife—we two were married secretly." And I said to him: "Wherefore, then, do you persecute and seek the death

of Christians?" "What, death?" he said. "I have saved many of them. It is true, that those whom I hated, I have not forborne to follow." Whatever I could say or do, by no means could I make this president agree that he was not a good and a wise man, however many were the marvellous evils in his parts which I had put under examination.

After this I took the head of a presiding judge, who called himself good servant to the king—the same had greatly persecuted certain Christians, and had favoured many wicked men; and, having subjected his head to examination, and separated its parts, I found that there was one part fattened by a morsel of benefice which he possessed; then I knew directly that this was the reason why he had made war against the Gospel, or against those who desired to lay it open to the light. Seeing which, I left him to his folly, knowing well that I should have had no power of argument over him, since his kitchen was fattened with that kind of pottage.

Then I came to examine the head and the whole body of a counsellor of parliament—the slyest fellow one might ever meet with—and having put his parts into the retort and furnace of examination, I found that he had in his belly many bits of benefices, which had fattened him so much that he could not confine his belly in his breeches. When I had perceived such a thing, I entered into dispute with him, saying to him: "Come, now, are you not foolish? Is it not thus that the profits of your benefices have caused you to take proceedings against Christians? Confess by this that you are a foolish man; I say, more foolish than Esau, who gave up his birthright for a mess of herbs: he gave no more than a temporal good, but you give an eternal kingdom,

and take upon yourself eternal penalties for the pleasure and delectation of your belly. Confess, therefore, that your folly is, beyond comparison, greater than that of Esau. Esau deplored his error, yet he was not heard. I do not mean to say by that, that if you confess your iniquity you will not be pardoned; but I have great fear that you will do nothing while you war directly against the truth of God, of which you are not ignorant."

I had no sooner finished my discourse, than this foolish and insensate man used all his efforts to put me to shame, and gain a victory upon the proposition that I had maintained; and said to me with a loud voice: "What, is that your argument? If I were, indeed, a fool for holding benefices, the number of fools would be terribly great." Then I said to him, quite gently, that all those who drink the milk and wear the wool of the sheep, without providing for their pasture, are accursed; and alleged to him the passage that is written in Jeremiah the Prophet, chapter 34. Then he attempted a bravado, and a marvellously high-flown fury, saying, "What? According to your account, there are a great many whom God has cursed? For I know that in our sovereign court, and in all the courts of France, there are few counsellors and presidents who do not possess some morsel of benefice, which helps to support the gildings and accoutrements, banquets, and common pleasures of the house,—necessary to acquire in time some noble place, or office, of more honour and authority. Do you call that folly? It is the most consummate wisdom," said he. "It is a great folly to let oneself be hung, or burnt, for the maintenance of the authorities of the Bible. *Item*," said he: "I know that

there are many great lords in France, who take the revenue of benefices; nevertheless, they are not fools, but very wise; for such things help them greatly in the maintenance of their estates, honours, and fat kitchens; and, by such means, they get good horses for their service during war."

When I had heard the discourse of this miserable simoniac, inveterate in his roguery, I was quite confounded, and cried out in my spirit, lifting up my eyes on high and saying: O poor Christians, and what place is yours? You thought to abase idolatry, and to have gained friends to your cause; I know now that you were not on the road to that; for if I may believe this counsellor, you have all the courts of parliament against you; and if it be as he has told me, you have also many great lords who take profit of the revenue of benefices; and while they are intoxicate with such a potion, you must fain know that they will always be your capital and mortal enemies. Therefore, I am of opinion that you should return to your old simplicity, assuring yourselves that you will have enemies, and be persecuted all the time of your life, if by direct paths you will follow and sustain the cause of God; for such are the promises written originally in the Old and New Testament. Take refuge, then, under the shelter of your protecting chiet and captain, our Lord Jesus Christ, who in time and place will know how properly to avenge the wrong that he has suffered, and your sorrows.

HISTORY OF THE TROUBLES IN XAINTONGE.

After I had perceived the follies and rogueries of men, and considered the horrible emotions and wars which have

this year pervaded the whole kingdom of France, I thought within myself to make the design of some town or city of refuge, in which to retire in time of wars and troubles, and evade the malice of many horrible and insensate plunderers, whom I have before now seen in the execution of their furious rage against a great multitude of families, without having regard to just or unjust cause, and even without any commission or commandment.

Question.—It seems to me, when I hear you talk, that you do not feel assured of the peace which it has pleased God to send us, and that you have still some fear of a popular outbreak.

Answer.—I pray God that it will please Him to give us His peace; but if you had seen the horrible excesses of men that I have seen during these troubles, you have not a hair in your head that would not have trembled, at the fear of falling to the mercy of man's malice. And he who has not seen these things, could never think how great and horrible a persecution is.

I do not wonder that the Prophet David preferred rather to choose pestilence than famine and war, saying that if he suffered plague, he was at the mercy of God, but that in war he was at the mercy of men; for which cause God extended his rod over his people, and not over him, because he had submitted himself to divine mercy, and made plain confession of his fault. For that reason, I can assure you that it is a thing horribly to fear, the falling under the mercy of men who are wicked and pernicious.

Question.—I pray you to tell me how arose this division in this district of Xaintonge; for it seems to me that it would be well to set it down in writing, in order that

it might remain as a perpetual memorial for the use of those who shall come after us.

Answer.—You know that there will be many historians who will employ themselves upon this matter: at all events, the better to describe the truth, I should think it well that in each town there should be persons deputed to write faithfully the deeds that have been done during these troubles; and from such materials the truth might be reduced into a volume; and for this cause I am about to give you a short narrative, not of the whole, but of a part of the commencement of the Reformed Church.

You must understand, that just as the Primitive Church was built upon a very small beginning, and with many perils, dangers and great tribulations, so, in these last days, the difficulty and dangers, pains, labour, and afflictions, have been great in this region of Xaintonge. I say of Xaintonge, because I will leave the inhabitants of any other diocese to write of it themselves, that which they truly know.

It happened, in the year 1546, that certain monks having spent some days in parts of Germany, or, it may be, having read some books of their doctrine, and finding themselves deceived, they had the boldness secretly enough to disclose certain abuses; but as soon as the priests and holders of benefices understood that these people depreciated their trade, they incited the judges to descend upon them: this the judges did with an exceedingly good will, because several of them possessed some morsel of benefice which helped to boil the pot. By this means, some of the said monks were constrained to take flight, to exile and unfrock themselves, fearing lest they might die in too hot a bed. Some took to a

trade, others kept village schools; and because the isles of Olleron, of Marepnes, and of Allevert, are remote from the public roads, a certain number of the said monks withdrew into those islands, having found sundry means of living without being known. And as they visited people, they ventured to speak only with hidden meaning, until they were well assured that they were not to be betrayed. And after that by this means they had reformed some number of persons, they found means to obtain the pulpit, because in those days there was a grand vicar who tacitly favoured them: thence it followed that by little and little, in these districts and islands of Xaintonge, many had their eyes opened, and knew many errors of which they had before been ignorant; for which cause many held in great estimation the said preachers, inasmuch as but for them they would view their errors poorly enough.

There was in those days a man named Collardeau, fiscal attorney, a man perverse and of evil life, who found means to give notice to the Bishop of Xaintes, who was at the time at court, giving him to understand that the place was full of Lutherans; and that he gave him charge and commission to extirpate them, and not only wrote to him many times, but also transported himself to the said spot. He succeeded so well by these means that he obtained a commission from the bishop and from the parliament of Bourdeaux, with a good sum of deniers that were taxed to him by the said court. This he contrived for gain, and not through zeal on behalf of religion. This done, he tampered with certain judges, as well in the island of Olleron as of Allevert, and likewise at Gimosac; and having corrupted these judges, he caused the arrest of the preacher of St. Denis, which

is at the end of the island of Olleron, named Brother Robin, and by the same means caused him to be passed into the island of Allevert, where he arrested another preacher named Nicole; and some days afterwards he took also the brother at Gimosac, who kept a school and preached on Sundays, being much beloved of the inhabitants. And although I believe the story to be written in the "Book of Martyrs," yet, nevertheless, because I know the truth of certain facts, I have found it well to write them, namely, that they well disputed and maintained their religion in the presence of one Navieres, theologian, canon of Xaintes, who had himself formerly begun to detect errors, however much, because he had been conquered by his belly, he maintained the contrary, as the poor captives well knew to reproach him to his face. However that might be, these poor folk were condemned to be degraded and caparisoned in green, in order that the people might esteem them fools or madmen; and what is more, because they maintained manfully the cause of God, they were bridled like horses by the said Collardeau, before being led upon the scaffold, which bridles had to each an apple of iron which filled all the inside of the mouth—a very hideous thing to see; and being thus degraded, they restored them into prison to conduct them to Bourdeaux, in order that they might be condemned to death. But between the two condemnations there occurred an admirable accident, namely, that he to whom most evil was desired, and whom it was designed to put to death with the most cruelty, was the man who escaped them, and quitted the prisons by an admirable means; for, to have care of him, they had stationed a certain person on the steps of an entry near the prisons, to listen for any

sign of outbreak; also, they had procured great village dogs, which a grand vicar had brought, which were set at large in the bishop's court, in order that they might bark if any prisoner attempted to come out. In spite of all these things, Brother Robin filed the irons which he had upon his legs, and having filed them, he gave the files to his companions, and this done, he pierced the walls, which were of good masonry. But there occurred a strange accident, which was, that by chance a number of hogsheads were piled one upon another before the said wall, which hogsheads being pushed down, created a great noise; for which cause the porter rose, and having listened a long while, returned to sleep. And so the said Brother Robin went out into the court, at the mercy of the dogs. However, God had inspired him to take some bread, and when he was in the court he threw it to the said dogs, who were quiet as the lions of Daniel. Now, it must be noted, that the said Robin had never been in this town of Xaintes, for this cause being in the bishop's court, he was still shut up; but God willed that he should find an open door which led into the garden, which he entered, and finding himself again shut up between certain somewhat high walls, he perceived by the light of the moon a certain pear-tree which was close enough to the said wall, and having mounted the said pear-tree, he perceived on the other side of the said wall a chimney, to which he could leap easily enough. Seeing which, he went back to the prisons, to know whether any one of his companions had filed his irons; but seeing that they had not, he consoled and exhorted them to battle manfully, and to take patiently their death; and embracing them, took leave of them, and went again to

mount upon the pear-tree, and thence leapt upon the chimneys of the street. But this was a very marvellous thing, proceeding from the divine Providence, how the said Robin could escape the second danger; for, because he never had been in the town, he knew not to whom he should retire. But because he had been sick with a pleurisy when in the prisons, and there had been provided for him a physician and apothecary, the said Robin ran through the streets inquiring for the said physician and apothecary, of whom he had remembered the names. But in doing this he went to knock at several doors belonging to his greatest enemies, and among others at the door of a counsellor, who employed all diligence next morning to get news of him, and promised fifty dollars on the part of the grand vicar, named Sellière, to him by whose means the said Robin should be taken. He then, knocking at doors in the hour of midnight, had excellently provided for his occasion, for he had fastened up his dress over his shoulders, and had fastened his fetters to one of his legs, and by such means those who came to the windows thought that it was a footman. He managed so well that he found refuge in a house, and was from thence in the same hour conducted out of the town, which occurred in the month of August in the said year; but those two companions were burnt, one in the town of Xaintes, and the other at Libourne, because the parliament of Bourdeaux had fled thither by reason of the plague, which was then in the town of Bourdeaux; and the above-named martyrs, Nicole and his companions, died in the month of August, in the year 1546, enduring death with a great constancy.

The bishop, or his counsellors, resolved in those times on

a trick and stratagem extremely subtle; for having obtained some order from the king for the cutting down of a great number of forests which were around this town, nevertheless, because many found their recreation in the woods and pastures of the said forest, they would not permit that they should be levelled; but those following the Mahometan artifices resolved to gain the heart of the people by preachings and presents made to the king's party, and sent into this town of Xaintes, and other towns of the diocese, certain monks of the Sorbonne, who foamed, slavered, twisted and twirled themselves, making strange gesture and grimaces, and all their discourses were nothing but outcry against these new Christians; and sometimes they exalted their bishop, saying that he was descended from the precious blood of Monseigneur St. Louis;* and in this way the poor people patiently allowed their woods to be cut down; and the woods having been thus cut, there were no more preachers. Thus you see how the possessions of people were practised upon as well as their souls.

By this you may easily judge what could be the state of the Reformed Church, which had not yet any appearance of a Church, otherwise than that there were some who tacitly and timidly complained against the Papacy. It was some time afterwards, in the year 1557, when one

* Bishop of Xaintes, in 1544, was Charles Cardinal of Bourbon; Archbishop of Rouen, Legate of Avignon, afterwards Bishop of Beauvais, Peer of France, Commander of the Order of the Holy Spirit. As Palissy would say, to boil his pot he had some benefices. He was Abbot of St. Denis, Abbot of St. Germain des Prez, Abbot of St. Ouen, Abbot of Jumièges, Abbot of Corbie, Abbot of Vendôme, Abbot of la Couture, Abbot of Signy, Abbot of Orcamp, Abbot of Montebourg, Abbot of Valemont, Abbot of Perseigne, Abbot of St. Germer, Abbot of Châteliers, Abbot of Froidmont, Abbot of St. Etienne, in Dijon; Abbot of St. Lucien, in Beauvais; Abbot of St. Michael, in Lerm; &c., &c.

named Master Philibert Hamelin, who had been formerly a prisoner in this town, and taken by the same Collardeau, transported himself again into this town of Xaintes; and, because he had dwelt at Geneva for some time since his imprisonment, and having enlarged at the said Geneva both his faith and doctrine, he had always a remorse of conscience, because he had dissembled in his public confession in this town; and wishing to repair his fault, he exerted himself, wherever he went, to incite men to have ministers, and to erect some kind of church, and so travelled through the lands of France, having some servants who sold Bibles, and other books printed in his press. For he had given his mind to it, and made himself a printer. In doing this, he passed sometimes through this town, and went also to Allevert. Now, he was so just and of so great a zeal, that although he was a man ill capable of walking, he would never accept horses, although many urged him so to do with full affection. And being slenderly provided as to the wherewith, he took with him no other outfit than only a simple staff in his hand, and went his way alone, in this manner, without any fear.

Now, it occurred one day, after he had concluded some prayers and little exhortations in this town—having at most seven or eight auditors—he went upon his way to Allevert, and, before parting, he prayed the little flock of the assembly to congregate themselves, to pray, and to exhort one another; and so he went to Allevert, labouring to win the people to God; and there, being received kindly by the chief part of the people, brought them by the sound of a bell to certain sermons, and baptized a child. Seeing which, the magistrates of this town constrained the bishop to produce money for the

maintenance of a pursuit of the said Philibert, with horses, gens-d'armes, cooks, and sutlers. The bishop, and certain magistrates of this town, transferred themselves to the island of Allevert, where they caused the child to be re-baptized who had been baptized by the said Philibert; and not being able to catch him there, they followed on his track, until they had found him in the mansion of a gentleman; and so they brought him into this town, as a malefactor to the criminals' prisons, although his works give certain witness that he was a child of God, and truly of His chosen. He was so perfect in his works that his enemies were compelled to own that he was of a holy life, always without approval of his doctrine.

I am full of wonder that men should have dared to sit in judgment of death over him, seeing that they knew well and had heard his blameless conversation; for I am assured, and I can say with truth, that after the time when he was brought into the prisons of Xaintes, I mustered hardihood (although the days were perilous in those times) to go and remonstrate with six of the principal judges and magistrates of this town of Xaintes, that they had imprisoned a prophet or an angel of God, sent to announce his word and judgment of condemnation to men in the last days; assuring them that for eleven years I had known the said Philibert Hamelin to be of so holy a life, that it seemed to me as if the other men were devils when compared to him. It is certain that the judges used humanity towards myself, and heard me kindly: also I spoke to each of them in his own house. Finally, they treated with tolerable kindness the said Master Philibert, although they could not acquit themselves of being guilty of his

death. True it is that they did not kill him, as Pilate and Judas did not kill the Lord; but they delivered him into the hands of those by whom they knew well that he would be slain. And the better to come by a wash for their hands that would acquit their hearts, they reasoned that he had been priest in the Roman Church; therefore they sent him to Bourdeaux, with good and sure guard, by a provost-marshal.

Would you know how holy was the life of the said Philibert? Liberty was given to him to live in the apartment of the gaol-keeper, and to eat and drink at his table; which he did while he was in this town. But after, for many days, he had laboured and taken pains to repress the gamblings and the blasphemies which were committed in the chamber of the gaol-keeper, it was so displeasing, seeing that they would not check themselves, that to prevent himself from listening to such evil, as soon as he had dined he caused himself to be led into a criminal cell, and remained there the whole day long in solitude, to avoid the evil company.

Item.—Would you know still better how he walked uprightly? To him, being in prison, there came an advocate of France, belonging to some region in which he had founded a little church, which advocate brought three hundred livres, which he offered to the gaol-keeper, provided he would, at night, put the said Philibert outside the prisons. Seeing which, the gaol-keeper was almost incited to do it; he requested, however, to take counsel with the said Master Philibert, who answering, told him: “that it was better worth his while to die at the hands of the executioner, than to expose another man to evil for the good of self.” Which learning, the said advocate took back his money. I

ask you, which is he among us who would do the like, being at the mercy of enemies as he was? The judges of this town knew well that his life was holy; nevertheless, they acted through fear, lest they should lose their offices: so we must understand it.

I was well informed, that while the said Philibert was in the prisons of this town, there was a person, who, speaking of the said Philibert, said to a counsellor of Bourdeaux: "They will bring you, one of these days, a prisoner from Xaintes, who will speak to you well, messieurs." But the counsellor, blaspheming the name of God, swore that he should not speak to him at all, and that he should take care not to be present at his judgment. I ask you whether this counsellor called himself a Christian, who would not condemn the just? At any rate, since he was constituted judge, he will have no excuse; for while he knew that the other was a good man, he ought with his power to have opposed the judgment of those, who through ignorance, or through malice, condemned him, delivered him up, and caused him to be hung like a thief, the 18th of April, in the abovenamed year.

Some time before the arrest of the said Philibert, there was in this town a certain artisan, marvellously poor and indigent, who had so great a desire for the advancement of the Gospel, that he demonstrated it every day to another as poor as himself, and with as little learning, for they both knew scarcely anything: nevertheless, the first urged upon the other that if he would employ himself in making some form of exhortation, that would be productive of great fruit. And as the second felt himself to be totally destitute of learning, that gave him courage; and some days afterwards he assembled,

one Sunday in the morning, nine or ten persons, and because he was ill versed in letters, he had taken some passage from the Old and New Testament, having them put down in writing. And when they were assembled, he read to them the passages and texts, saying: "That each man, according to the gifts he had received, should distribute them to others; and that every tree which bore not fruit, would be cut down and cast into the fire." Also he read another text taken from Deuteronomy, where it is written: "Thou shalt declare my words, when thou sittest in thine house, and when thou walkest by the way, when thou liest down, and when thou riseth up; and thou shalt write them on the door-posts of thine house, and on the gates." He proposed to them, also, the Parable of the Talents, and a great number of such texts; and this he did tending towards two good ends: the first was to show, that it was the duty of all people to speak of the statutes and ordinances of God, and that his doctrine might not be despised on account of his own abject state. The second end was to incite certain auditors to do as he was doing; for in this same hour they agreed together that six from among them should make exhortations weekly—that is to say, each of the six once in six weeks, on Sundays only. And because they undertook a business in which they had never been instructed, it was said that they should put their exhortations down in writing, and read them before the assembly. Now all these things were done by the good example, counsel, and doctrine of Master Philibert Hamelin. That was the beginning of the Reformed Church of the town of Xaintes.

I am sure that there was, at the beginning, such a congre-

gation that the number was of five alone; and while the church was so little, and the said Master Philibert was in prison, there arrived in this town a minister named De la Place, who had been sent to go and preach in Allevert. But on the same day, the attorney of the said Allevert happened to be in this town, who assured him that he would be very unwelcome there, on account of that baptism which Master Philibert had performed, because several assistants thereat had been condemned to very heavy penalties, and it was for this reason that we prayed the said De la Place to administer to us the word of God; and he was received for our minister, and remained until we had Monsieur de la Boissiere, which is he whom we still have at the present time. But this was a pitiable thing, for we had the goodwill, but the power to support the ministers we had not; inasmuch as La Place, during the time that we had him, was maintained partly at the expense of the gentlemen, who frequently invited him. But fearing lest that might not be the means of corrupting our ministers, they advised M. de la Boissiere not to leave the town, except with permission, to attend upon the nobility, even though it might be upon urgent business. By such means, the poor man was shut up like a prisoner, and very frequently ate apples, and drank water for his dinner; and for want of tablecloth, he very often laid his dinner on a shirt, because there were very few rich people who joined our congregation, and so we had not the means of paying him his salary.

In that way our church was established: in the beginning, by despised folk; and when its enemies arrived to waste and persecute it, it had so well prospered in a few

years, that already the games, dances, ballads, banquets, and superfluities of head-dress and gildings, had almost all ceased: there were almost no more scandalous words, or murders. Actions at law were beginning greatly to diminish; for so soon as two men of our religion began an action, means were found to bring them to accommodation, and even, very often, before commencing any suit, one man did not begin to proceed against another until first he had caused him to be reasoned with by members of the Church. When the time came for Easter preparations, many engaged in hatreds, dissensions, and quarrels, were reconciled. The question was not only about psalms, prayers, canticles, and spiritual songs, any more than it was only a quarrel against dissolute and lewd songs. The Church had so well prospered, that even the magistrates had assumed the control of many evil things which were dependent upon their authority. It was forbidden to inn-keepers to have gaming in their houses, or to give meat and drink to people who inhabited houses in the town, in order that the debauched men might be returned to their families. You would have seen in those days, on a Sunday, fellow-tradesmen rambling through the fields, groves, and other pleasant places, singing in troops, psalms, canticles, and spiritual songs, reading, and instructing one another.

You would have seen the daughters and virgins seated by troops in the gardens, and other places, who, in a like way, delighted themselves in the singing of all holy things. On the other hand, you would have seen the teachers, who had so well instructed youth, that the children had even no longer a puerility of manner, but a look of manly fortitude. These things had so well

prospered that people had changed their old manners, even to their very countenances.

The Church was established in the beginning with great difficulty and eminent perils; we were blamed and vituperated with perverse and wicked calumnies. Some said, If their doctrine were good, they would preach it publicly. Others said, that we assembled out of lewdness, and that at our assemblies women were common. Others said, that we went to kiss the tail of the devil with the candle of rosin. Notwithstanding all these things, God so well favoured our affair, that although our assemblies were most frequently held in the depth of midnight, and our enemies very often heard us passing through the street, yet so it was, that God bridled them in such manner that we were preserved under His protection. And when God willed that His Church was manifested publicly, and in the face of day, he fulfilled in our town an admirable work; for there were sent to Toulouse two of the principal chiefs, who would not have permitted our assemblies to be public, which was the reason why we had the hardihood to take the market-hall. That we could not possibly have done without great scandal, if the said chiefs had been in the town. And this would have been so; for you cannot affirm that, since those troubles, they have been otherwise than totally bent on checking, ruining, and annihilating, engulfing, and thrusting into an abyss the little skiff of the Reformed Church.

By that, I can judge easily that God detained them for the space of two years, or thereabout, at Toulouse, in order that they might not hurt His Church, during the time that He would have it to be manifested publicly.

Though the Church had great enemies, nevertheless she flourished in such a manner in few years, that even the enemies of the same, to their very great regret, were constrained to speak well of our ministers; and particularly of Monsieur de la Boissiere, because his life rebuked them, and gave good witness of his doctrine. Now, certain priests began to take part in the assemblies, to study, and take counsel about the Church; but when any one of the Church was guilty of some fault, or wrong, to any one of the adversaries, they were very prompt to say: "Your minister has never counselled you to do this evil." And so the enemies of the Gospel had the mouth shut; and, though they held the ministers in hatred, they dared not malign them, because of their good life.

In those days the priests and monks were blamed in common talk—that is to say, by enemies of the religion, and they said thus: "The ministers make prayers, which we cannot deny to be good. Why is it that you do not make the like?" Which seeing, monsieur, the theologian of the chapter, betook himself to making prayers like the ministers; so did the monks, who were paid salaries for preaching: for if there was a shrewd brother, awkward customer, and subtle argumentator among the monks in the whole country, he must be had in the cathedral church. Thus it happened, that, in those days, there was prayer in the town of Xaintes every day, from one side or the other.

Do you wish to know how the Roman ecclesiastics made the said prayers, through hypocrisy and malice? Observe a little: they make no more of them now, nor did they make any before the coming of the ministers. Is it not easy to judge, that what they did in that respect

was only for the sake of saying: "I know how to do that as well as others?" However that may be, the Church prospered so well then, that the fruits of the same will endure for ever. And those who hope that they shall see the Church beaten down and annihilated, they will be confounded. For since God insured its safety then, when there were but three or four despised folk, how much more He will have care to-day of a great number? I do not doubt that she will be tormented; upon that we ought all to be well assured, since it is written; but that will not be according to the desire and measure of her enemies. Several village-people in those days demanded ministers of their rectors, or farmers, of the Church, or otherwise declared that they would pay no tithes: this worried the priests more than any other thing, and appeared to them very strange.

In those days, deeds were done worthy enough to make one laugh and weep at the same time; for certain farmers, hostile to the religion, seeing these new events, betook themselves to the ministers to pray that they would come and exhort the people of the district which they farmed, and this in order that they might be paid their tithes. I never looked so merry, though I wept the while, when I heard say that the attorney, who was criminal-notary when suits were brought against those of the religion, had himself made the prayers, a little while before the devastation of the church in the parish of which he was farmer. It is to be decided whether, when he himself made the prayers, he was a better Christian than when he made out the indictment against those of the religion: certes, he was as good a Christian when he made out the indictment, as he was when he made the prayers, provided that he

made them only to get out of the labourers their corn and fruits.

The fruit of our little church had so well prospered, that they had constrained the wicked to become good ; nevertheless, their hypocrisy has been since then amply made manifest and known : for when they had license to do evil, they have shown outwardly what they kept hidden in their wretched breasts. They have done deeds so wretched that I have horror in the mere remembrance, at the time when they rose to disperse, engulf, ruin, and destroy those of the Reformed Church. To avoid their horrible and execrable tyrannies, I withdrew myself into the secret recesses of my house, that I might not behold the murders, cursings, and indecent deeds which were done in our rural glades ; and being thus withdrawn into my house for the space of two months, I had warning that hell was loose, and that all the spirits of the devils had come into the town of Xaintes : for where I had heard a little while before psalms, canticles, and all honest words of edification and of good example, I heard only blasphemies, blows, menaces, tumults, all miserable words, dissoluteness, lewd and detestable songs ; in such wise, that it seemed to me as if all virtue and holiness on earth had been smothered and extinguished : for there issued certain imps out of the Château of Taillebourg, who did more ill than the demons of antiquity. They, entering the town, accompanied by certain priests, with naked sword in hand, cried, “ Where are they ? ” They must cut throats immediately ; and so they did to those who walked abroad, well knowing that there was no resistance ; for those of the Reformed Church had all disappeared. In any case to find evil, they took a Parisian in the

streets, who was reported to have money; they killed him without meeting any resistance, and exercising their accustomed trade, reduced him to his shirt before life was extinct. After that, they went from house to house, to seize, sack, gluttonise, laugh, jest, and make joy with all dissolute deeds and blasphemous words against God and man; and they did not content themselves with jesting against man, but also they jested at God; for they said, that Agimus had beaten the Eternal Father.

In that day there were certain persons in the prisons, to whom the pages of the canons, when they passed before the said prisons, said, jesting, "The Lord will help you;" and they said to them again, "now say, 'Avenge me, espouse my cause.'" And some others, beating with a stick, said, "The Lord be merciful to you." I was greatly terrified for the space of two months, seeing that the linkboys and blackguards had become masters at the expense of those of the Reformed Church. I had nothing every day but reports of frightful crimes that from day to day were committed; and it was of all those things the one that grieved me most within myself, that certain little children of the town, who came daily to assemble in an open space near the spot where I was hidden (exerting myself always to produce some work of my art), dividing themselves into two parties, and casting stones one side against the other, swore and blasphemed in the most execrable language that ever man could utter; for they said, by the blood, death, head, double-head, triple-head, and blasphemies so horrible that I have, as it were, horror in writing them. Now, that lasted a long while, while neither fathers nor mothers exercised over them any rule. Often I was

seized with a desire to risk my life by going out to punish them; but I said in my heart the seventy-ninth Psalm, which begins, "O God, the heathen are come into thine inheritance." I know that many historians will describe these things more at length; nevertheless, I have desired to say thus much by the way, because, during the evil days, there were very few members of the Reformed Church in this town.

A STUDY IN FORTIFICATION.

SOME time after I had considered the horrible dangers of war, from which God had marvellously delivered me, I was seized with a desire to design and draw the plan of some town, wherein one might be secure in time of war; but considering the furious batteries of which men now make use, I was almost out of hope, and went every day with my head bowed, fearing lest I should look at something which should cause me to forget the things of which I desired to think; for my mind leapt now to one town, and now to another, labouring to recollect the strong points of those, and to know whether I might partly make use of the plan of these, to serve my design. But I found in all these a manner of construction very contrary to my opinion; for the inhabitants, in fortifying them, divide the houses which adjoin the walls from the defences of the town, and make great walks between the houses and the said walls; and that they say to be necessary for doing battle, defending and drawing along all kinds of engines and artillery; but I found also that this served towards

the killing of a great many men, and I have never been able to persuade my mind that such an invention was good, and assure myself that if, at the time when columns were invented, artillery had held sway as it does at present, that our ancient builders never would have built the towns with separation of the houses from the walls. And why? In time of peace the walls are useless, however great the treasure and the toil that may have been employed upon them.

Having then considered these things, I found that the said towns could in no case serve me for a copy, seeing that when the walls are overcome, the town is forced to a surrender. Truly that is but a poor body of a town when the members cannot consolidate and aid each other. In short, all such towns are ill designed as long as the members are not concatenated with the main body. It is very easy to beat down the body, if the members render no assistance. Seeing which, I put aside my hope of taking any copy from the towns that are built at present; so I transported my mind to contemplation of the pictures of compartments and other figures which have been made by Master Jacques du Cerceau and several other designers. I looked also at the plans and figures of Vitruvius and Sebastian, and other architects, to see whether I could find in their pictures anything which might serve me for the invention of the said fortified town; but never was it possible for me to find any picture which could aid me in this affair.

Which seeing, I walked like a man absent in mind, the head bowed, without saluting or regarding anybody, because of my interest which was engaged on behalf of the said town. And walking thus, visiting all the most

excellent gardens which it was possible for me to find (and this, in order to see whether there might be some form of the labyrinth invented by Dædalus, or some flower-bed, which might give hint for my design), it was not possible for me to find anything that could content my mind.

Then I began to wander through the woods, mountains, and valleys, to see whether I could find some industrious animal which had built some house of industry: seeking which, I saw a very great number of them, which caused me to be quite astonished at the great industry that God had given to them; and among others, I was full of marvel at a fortress which the loriot had made for the protection of its little ones; for the said fortress was suspended in the air, by an admirable industry: at the same time, I found no profit there for my affair.

I saw also, a young snail, which built its house and fortress of its own saliva; and this it did, little by little, during many days: for, having taken the said snail, I found that the edge of its building was still liquid, and the remainder hard, and knew then, that some time was needed for the hardening of the saliva with which it built its fort. Then I took great occasion to glorify God in all his marvels, and found this might give some little aid to me in my affair: at the least, it encouraged me, and held me in hope that I should succeed in my design. Then, joyous enough, I walked hither and thither, to one side and to another, to see whether I could further obtain some lesson from the buildings of animals; which lasted for the space of several months, during which time, I always exercised my art as potter, to support my family.

After I had remained for many days in this debate of

mind, I bethought myself of visiting the shore and rocks of the great ocean, where I perceived so many diverse kinds of dwellings and fortresses, which certain little fish had made with their own liquor and saliva, that from that time I began to think that I might find there something good for my affair. Then I began to contemplate the industry of all these kinds of fish, to learn something of them, beginning from the largest to the least: I found things which made me all abashed, because of the marvellous Divine Providence which had bestowed such care upon these creatures; so that I found in those of least esteem, that God had bestowed upon them greater industry than on the others: for thinking to find some great industry and excellent wisdom in the large fishes, I found in them nothing industrious, which caused me to consider that they were well enough armed, feared, and dreaded because of their greatness, and that they had not need of other armour; but as for the weak, I found that God had given to them industry to know how to construct fortresses marvellously excellent against the designs of their enemies. I perceived also, that the battles and stratagems of the sea were, without comparison, greater in the said animals than those of earth; and saw that the luxury of the sea was greater than that of the earth, and that, without comparison, it produced more fruit.

Having then taken strong desire to contemplate these things from close at hand, I took note that there was an infinite number of fishes which were so weak in their nature, that there was in them no appearance of life, except a form of slimy liquor; as are the oysters, the mussels, the heart-shells, the cockles, the limpets,

and an infinite number of wrinkles of different kinds and sizes.

All those abovenamed fishes are weak, as I have said before: but what? Behold now an admirable thing, which is, that God has had so great care for them, that he has given to them industry to know how to make, each for himself, a house, constructed and smoothed by such a system of geometry and architecture, that never Solomon in all his wisdom could have made the like, and if even all human intellects could be assembled into one, they would not know how to produce the faintest trace of it.

When I had contemplated all these things, I fell upon my face, and in adoring God, began to cry out in my spirit, saying: "O thou good God! I can now say, like the Prophet David, thy servant, 'And what is man, that Thou rememberest him?' and that even Thou shouldst have made all things for his service and comfort? At the same time, Lord, he is not ashamed to lift up himself against Thee, to destroy and do away with those whom Thou hast sent upon the earth, to announce thy justice and judgment to men. O thou good God! and who shall he be who will not marvel at Thy wondrous patience? How long will Thou leave here to suffer and endure, the Prophets and the chosen whom Thou hast placed at the mercy of those who cease not to torment them?" This done, I walked upon the rocks, to contemplate more closely the excellent marvels of God; and having found certain limpets, which are called otherwise goat's-eyes, I perceived that they were armed with a great industry; for having but one shell upon the back, they attached themselves over

the rocks, in such a manner, that I think there is no fish in the sea, however furious, which would be able to tear it from the said rock. And when one wishes to tear off the said fish, which is only slime, or a hardened liquor, if one fails to tear it off at the first trial, by putting a knife between the rock and it, it will come to clasp and join itself so closely to the rock, that it is not any longer possible to tear it off; which is an admirable thing, seeing the weakness of its nature. The hourmeau, and several other kinds, attach themselves in a like way; for, otherwise, their enemies would soon devour them.

Is not this also an admirable thing of the sea-urchin? which, because its shell is so weak, God has given to it means of knowing how to make many sharp spines upon its corslet or fortress; so that when it is attached upon its rock, one cannot take it without pricking one's-self. Is it not an admirable thing to see the fishes which have two shells? If you consider the cockles and the heart-shells, and many other kinds, you will find an industry such that it will give you occasion to abase your pride. Have you ever seen a thing made by the hand of man, which could fit so accurately as do the two shells and armour of the said heart-shells and cockles? Certes, it is impossible to men to do the like. Do you think that those little concavities and nervations, which are in the said shells, have been made only for ornament and beauty? No, no, there is something more: that augments in such sort the strength of the said fortress, as certain arched buttresses which rest against a wall, in order to consolidate it; and that there can be no doubt of this, I will believe always in the judgment of the architects.

Do you think that the fishes which erect their fortresses by spiral lines, or in the form of a snail-shell, that this is done by them without a reason? No, it is not for beauty only, there is abundant other reason. You should understand, that there are many kinds of fish which have the snout so pointed that they would eat the greater part of the above-named fishes, if their house were built in a straight line; but when they are assailed by their enemies at the gate, in retiring within, they retire by a winding course, and following the track of the spiral line; and by such means their enemies are not able to do them harm. Which being considered, it is not for beauty only, that these things are so done, but for strength. Who will be the man so ungrateful who will not adore the Sovereign Architect, in contemplating the above-named things.

Walking thus over the rocks, I saw marvels which gave me occasion to cry after the example of the Prophet: "Not unto us, O Lord, not unto us, but unto Thy name be glory and honour;" and began to think in myself, that I could not find anything of better counsel, to make the plan of my fortified town. Then I set myself to observe which of all the fishes would be found the most industrious in architecture, in order to take some counsel from his industry.

Now, at that time, a citizen of Rochelle, named l'Hermite, had made me a present of two very large shells, that is to say, of the shell of a purple-murex, and the other of a conch, which were brought from Guinea, and were both made in the manner of a snail-shell, and with spiral lines: but that of the conch was stronger and larger than the other. At the same time, considering the proposition which I have above held, namely, that God has

bestowed more industry upon the weak things than upon the strong, I stayed to contemplate more closely the shell of the purple-murex than that of the conch, because I assured myself that God had given to it something more, to make compensation for its weakness. And so, having dwelt long upon these thoughts, I took heed that in the shell of the murex there were a number of projections tolerably large, by which the said shell was surrounded. I assured myself then, that not without cause, had the said horns been formed, and that they were so many bulwarks and defences for the fortress and refuge of the said purple-murex. Seeing which, I could find nothing better for the building of my fortified town, than to take example from the fortress of the said purple-murex, and took straightway a compass, rule, and other tools necessary for the making of my picture. In the first place, I made the figure of a great square, around which I made the plan of a great number of houses, to which I put the windows, doors, shops, all looking towards the external part of the plan and the streets of the town; and near one of the angles of the said open square, I marked the plan of the house or dwelling of the principal governor of the said town, in order that none might enter into the said square without the permission of the governor; and surrounding the said square, I made the plan of certain advanced or ground galleries, to hold the artillery under cover, and made the plan in such wise that the walls before the gallery will serve for defence and battery, containing many portholes along their whole circuit, which are all directed towards the centre of the said square; in order that if the enemies should enter by a mine into the said square, there would be means ready in a moment

to exterminate them. Which being done, I commenced a turn of street from the outlet of the said portal, enveloping the plan of the houses which I had marked on the place of the said square, intending to build my town in the form of a spiral line, and following the form and industry of the purple-murex ; but when I had a little thought of my affair, I perceived that the business of cannon is to play in straight lines, and that if my town were built entirely in accordance with a spiral line, the cannon could not play down the streets ; for which reason I resolved then to be guided by the industry of the murex, only in as far as it might serve me ; and I began to mark the plan of the first street, near to the square, outside its circumference, in a square form ; and this done, I marked the dwellings on the outside of the said street, all having their aspects, entrances, and exits, towards the centre of the said square ; and thus there appeared a street having four faces in the first row, which is about the middle, and winding like the shell of the murex, and this always by straight lines.

I began afresh to mark a street outside the first, also surrounding it ; and after these two streets were drawn, with the necessary houses round them, I began to follow the same circuit for the drawing of the third street ; but, because the square and the two streets about the same had greatly lengthened the circuit, I found it good to give eight faces to the third street ; and this for many reasons.

When the third street was drawn thus, with the necessary houses round it, I found my invention very good and useful, and came again to mark and draw another street like to the third, that is to say, with eight faces, and always enveloping the last ; this done, I found that

the said town was sufficiently spacious, and came to mark the houses round the said street, joining the walls of the said town, which walls I proceeded to represent joined with the houses of the street adjacent to them. Then, having thus made my plan, it seemed to me that my town put to shame all others; because all the walls of other towns are useless in a time of peace, and those which I make will serve at all seasons, for habitation to the same people who will be in exercise of many trades, while they act as a garrison to the said town.

Item.—Having made my picture, I found that the walls of all houses would serve also as horns; and from whatever side the cannon might be brought against the said town, it would come always under a length of wall. Now, in the town there will be only one street, and one entrance, which will lead spirally winding, and that by straight lines, from angle to angle, into the square, which is in the centre of the town; and in each corner and angle of the faces of the said streets, there will be a double and vaulted gate, and above each of these a high battery or platform, in such wise, that from the two angles of each face one may at all times fire from end to end out of cover, by means of the said vaulted gates, and this without the possibility of harm done to the cannonaders.

Having thus made my picture, and being well assured that my invention was good, I said in my mind, I may now boast, that if the king would build a fortified town in some part of his kingdom, I would give him a picture, plan, and model of a town the most impregnable that exists in our day among men; that is to say, in as far as concerns the art of geometry and architecture

—the places being excepted which God has fortified by nature.

And in the first place, if a town be built according to the model and picture which I have made, it will be impregnable:

By multitude of people,
 By multitude of cannon-balls,
 By fire,
 By mine,
 By scaling-ladders,
 By famine,
 By treason,
 By sapping.

Interpretation of some Articles.

Some will find strange the article of treason, but it is so, that if ten or twelve parts of the town, and even the governor of the same, had plotted together with the enemies to surrender the town, it is not in their power to surrender it, provided that there is one small part of the town which will resist; because the order of the buildings will be so well concatenated, that it would be necessary to have the consent of all the inhabitants to treason, before it could be surrendered, and the general conspiracy could never be made without the prince being made cognisant thereof.

Item.—People will be amazed at my saying that it is impregnable by famine: I say this, because it can be garrisoned by very few people; I say, very few, for if very few people should be provided with biscuit for certain years, there are no cannonaders so fierce, no engineers so subtle, that they would not be obliged to raise the

siege from before such a town, though to their own confusion.

Item.—People will be astonished at my saying that it would be impregnable by sap, but I say more, that if the enemies should have sapped and carried away the foundations of the whole circuit of the town, and if they had thrown them into the abysses of the sea, yet so it is that by such means the inhabitants would have no occasion to be confounded, because walls will still surround them as before. And if it happened that the enemy were still more obstinate, and dashed about the circuit of the walls as many cannon-balls as there could fall drops of water in a rain of fifteen days, and by such means they had reduced the whole circuit of the walls to little bits like chips, that is to say, laid the walls low into fallow, yet for all that the town would not at all be lost, nor the inhabitants injured in their persons. And what is more, if the enemies had been still more determined, and had broken a way quite through the middle of the said town, and that they could pass and repass through the said town to the number of forty abreast, drawing with them all kinds of engines and artillery, yet so it is that they would not yet have gained that town; which thing, I know, will be thought very strange.

I say also, that if the enemies should find means, by a subtle mine, to rise up in any place which may be in the midst of the town, and they shall be entered into the said town in such great number of men and artillery; that all the said place might be full of well-armed men, so it is that by such means they will have gained nothing except the shortening of their days. And if it should happen that the enemies had made such

an effort, that by their multitude they had made mountains, which were so high that the enemies might have looked down to the very pavement of the streets adjacent to the walls, to throw balls and all kind of engines and strange fires, by such means the inhabitants would suffer no damage, except it were fear, and the poisoning of their air by foul matters, which might be thrown into the street adjacent to the walls, but not into the others.

Item.—The arrangement of the town would be made with such subtlety and invention, that even children above six years old could aid in defending it on the day of assault, and that, too, without displacing any one of them from his own home and dwelling, and without exposing their persons to any danger.

I know well that some would laugh at this; nevertheless, I am assured of all that is above said, and am ready to expose my life, if I cannot make the truth apparent by a model, in which will be demonstrated the appliances and secrets of the said fortress in such manner, that by the said model every one will know the truth, precisely as if the town were built.

Question.—You make here rather a rash promise, to say that by picture and plan you can make it easily understood, that what you have said about the fortified town contains truth. Why is it, then, that you have not put into this book the picture and plan of the said town; for by that, one would have been able to judge whether your statement contains truth?

Answer.—You have very ill remembered what I said; for I did not tell you that by the plan and picture one might judge the whole, but with the plan and picture, I added, that it was requisite to make a model; at the same time,

that there is no reason why it should be made at my expense. I have told you fairly that the thing would merit recompense; wherefore, it is a just thing that the labour on the said model should be paid for at the cost of those who wish to have it? Now, if you know any one who wishes to have a model of my invention, you may refer him to me, as I hope you will. And in this place, I will pray the Lord God to hold you in his keeping.

HOW TO GROW RICH IN FARMING.

To have more ready comprehension of the present discourse, we will conduct it in the form of dialogue, in which we will introduce two persons; the one will inquire, the other will reply as follows :

SINCE we are upon the subject of honest delights and pleasures, I may assure you that for many days I have begun to busy myself on one side and the other, in search of a hilly place, proper and convenient, to build a garden for my retirement, and the refreshment of my mind in a time of dissensions, plagues, epidemics, and other tribulations, with which we are in this day greatly troubled.

Question.—I cannot clearly understand your design, because you say that you seek a hilly place to make a delectable garden. It is an opinion contrary to that of all the ancients and moderns; for I know that people commonly seek level places for the forming of gardens; also, I know well that some having banks and mounds

in their gardens, have put themselves to great expense to level them. Which being considered, I pray you to tell me the cause which has moved you to seek a hilly place for the erection of your garden.

Answer.—Some days after that the disturbances and civil wars had been appeased, and that it had pleased God to send us His peace, I was one day walking through the meadows of this town of Xaintes, near to the river Charente, and while I was contemplating the horrible dangers from which God had preserved me in the past time of tumults and horrible troubles, I heard the voice of certain virgins, who were seated under certain groves, and sang the Hundred and Fourth Psalm. And, because their voice was soft, and exceedingly harmonious, that caused me to forget my first thoughts; and having stopped to listen to the said Psalm, I passed through the pleasure of the voices, and entered into contemplation of the sense of the said Psalm; and having noted the points thereof, I was quite confused with admiration of the wisdom of the royal prophet, saying to myself: “O divine and admirable bounty of God! I would that we all held the works of Thy hands in such reverence as the prophet teaches us in this Psalm.” And then I thought that I would figure in some large picture the beautiful landscapes which the prophet describes in the above-named Psalm: but soon after my courage was altered, seeing that pictures are of short duration; and I thought to find a place convenient for building a garden, according to the design, ornament, and excellent beauty, or part thereof, which the prophet has described in his Psalm; and having already figured in my mind the said garden, I found that I could, accordant with the same plan, build near the same garden a palace or

amphitheatre of refuge, which might be a holy delectation, and an honourable occupation for the mind and body.

Question.—I find you very far removed from all common opinion in two respects: the first is, because you say that it is requisite to find a hilly place to build a delectable garden; and the other, because you say that you would also build an amphitheatre of refuge for the exiled Christians, which I cannot take in good part. Consider that we have peace, also that we hope that shortly there will be liberty of preaching through all France, and not only in France, but also through all the world; for it is so written in St. Matthew, chapter xxiv., there where the Lord God says, that the Gospel of the kingdom shall be preached in all the world, for a witness unto all nations. That is what causes me to say, and to assure you, that there is no longer need to seek out cities of refuge for the Christians.

Answer.—You have very ill considered the sayings of the New Testament; for it is written, that the children and elect of God shall be persecuted to the end, and hunted and mocked, banished, and exiled. And as for the saying which you have adduced, written in St. Matthew, true it is that it is written that the Gospel of the kingdom shall be preached in all the world; but it does not say that it shall be received of all; but says, indeed, that it shall be a witness unto all, that is to say, to justify those who believe, and to condemn justly the unfaithful. In consequence of which, it is to be concluded, that the perverse and iniquitous, simoniacs, the avaricious, and all kinds of wicked people, will at all times be ready to persecute those who, by straight roads, would follow the statutes and ordinances of our Lord.

Question.—As for the first point, I grant it to you ; but when you say that a hilly place is required for the erection of a garden, I cannot agree with you.

Answer.—I know that all folly, sanctioned by custom, is accepted for a law and a virtue ; but I do not stop at this point, and by no means desire to be an imitator of my predecessors, except in as far as they have done well according to the ordinances of God. I see so much error and ignorance in all the arts, that it seems to me as if all order were for the greater part perverted, and that each labours on the soil without any philosophy, and all jog always at the accustomed trot, following the footsteps of their predecessors, without considering the nature or the prime causes of agriculture.

Question.—You astonish me now more than ever with your propositions. One would suppose, to hear you speak, that some philosophy is needed by the labourers—a thing which I find strange.

Answer.—I tell you, that there is no art in the world, in which a greater philosophy is required than agriculture ; and tell you, that when agriculture is conducted without philosophy, it is the same thing as a daily violation of the earth, and of the things which she produces ; and I wonder that the earth, and the natures generated in the same, do not cry vengeance against certain murderers, ignorant and ungrateful, who daily do nothing but spoil and waste the trees and plants without any consideration. I dare well affirm, too, that if the earth were cultivated as it ought to be, one day would produce the fruit which two give, in the way that it is now cultivated daily. Do you not remember to have read a story, that there was a certain agricultural person, who was so very good a philosopher, and so subtly ingenious,

that by his labour and industry he contrived that the little ground he owned rendered him more fruit than came of a great quantity of that belonging to his neighbours; whence followed a great envy; for his neighbours, seeing such things, were troubled at his well-being, and accused him that he was a sorcerer, and that by his sorcery he caused his land to bear more fruit than that of his neighbours. Which seeing, the judges of the city called him before them, to make him declare what was the reason why his lands bore so great abundance of fruits; which seeing, the good man took his children and his servants, his cart and team, and with this, many instruments of agriculture, which he went to exhibit before the judges, pleading before them that the sorcery he used upon his lands, was the toil of his own hands, and the hands of his children and servants, and the different tools he had invented; for which the good man was praised greatly, and went back to his labour; and by such means the envy of his neighbours was made amply known.*

Question.—I pray you, tell me wherein it is necessary that the labourers have some philosophy; for I know that many will jest at such an opinion: take heed that ye be not seduced by vain philosophies.

Answer.—You deceive yourself in alleging this passage of St. Paul in this place, inasmuch as it makes nothing against me; for when St. Paul says, “Take heed that

* A story that has been told often, out of Pliny's Natural History, book xvii. The farmer, who is its hero, was C. Furius Ctesinus, a freedman. This was the speech with which he introduced before the judges his household and his tools, in answer to the charge against him:—“Veneficia mea, Quirites, hæc sunt, nec possum vobis ostendere, aut in forum adducere lucubrationes meas, vigilasque et sudores.” True Roman eloquence.

ye be not seduced by philosophy," he adds "vain;" but that of which I speak is not vain but it is approved good by St. Paul himself: but you should understand, that when St. Paul writes that one must take heed against vain philosophy, he speaks to those, who through human philosophy desired to understand God. Wherefore I conclude that to make nothing against my opinion. How do you think that a labourer should know the seasons of labouring, planting, or sowing, without philosophy? I would venture to tell you, that one might labour on the soil in such a season, that one would cause to it more harm than good. *Item*, how will a labourer know the difference of soils without philosophy? Some are suitable for wheat, others for rye, others for peas, and others for beans. The beans grown in one field are fit to cook, and quite close to it there will be another field, in which the beans that will be there produced will not be fit to cook at all; and it is the same with all kinds of pulse. Also, there are waters in which the pulse cannot be cooked, and there are other waters in which the pulse will be cooked fitly. In short, it is impossible to be able to recite to you how much natural philosophy is requisite to farmers; and it is not without cause that I have put these propositions first; for the ignorant acts that I see daily committed in the art of agriculture, have caused me often to torment myself in my spirit, and to be wrathful in my solitary thoughts; because I see that every one tries to aggrandise himself, and seeks means to suck the substance of the earth, without bestowing labour for the purpose; and meanwhile, men leave the poor untaught folk to the cultivation of the soil: whence it follows that the soil, and that which it produces, are often adulterated, and great

violence is done to the bovine animals which God has created for man's relief.

Question.—I pray you to show me some fault committed in agriculture, in order to make me believe what you say.

Answer.—When you walk through the villages, consider a little the muck-heaps of the labourers, and you will see that they put them outside their stables, now on a high place, now on a low place, without any consideration, but if the heap be piled up, it suffices them; and then take notice in a time of rain, and you will see that the waters which fall on the said muck-heaps, carry away a black tint in passing through the said heaps; and finding the base, slope, or inclination of the place on which the heaps are put, the waters which pass through the said heaps will carry away the said tint, which is the chief part and whole sum of the substance of the muck-heap, for which reason the muck-heap so washed can serve only for a parade; but being carried to the fields, it there yields not any profit. Do you not see, then, a manifest ignorance, which is greatly to be regretted?

Question.—I believe nothing of that, if you do not give me other reason.

Answer.—You should understand, in the first place, the cause for which men carry the muck-heap to the field; and having understood the cause, you will believe easily what I have told you. You must needs confess to me, that when you bring the muck-heap to the field, it is to restore to it a part of that which has been taken from it; for it is so, that in sowing wheat, men hope that one grain will yield many; now, that it cannot do without taking some substance from the soil, and if the

field has been sown many years, its substance has been removed in straw and grain. For which reason it is necessary to bring back the muck-heaps, filths, and impurities, and even the excrements and ordures as well of men as of beasts, if it were possible, in order to restore to the place the same substance which had been taken from it; and that is why I say that muck-heaps ought not to be left at the mercy of the rains, because the rains in passing through the said heaps, carry away the salt, which is the main substance and virtue of the muck-heap.

Question.—Now you have given me a proposition which makes me muse more than all the rest, and I know that many will laugh at you, because you say that there is salt in muck-heaps; I pray you, give me some evident reason to make me believe that.

Answer.—Just before, you thought it strange when I told you that some philosophy was requisite for labourers, and now you ask me for a reason which depends very much upon my first proposition. I will tell it you, but I pray you to hold it in such esteem as of itself it merits; in attending to this, you will understand several things of which you have hitherto been ignorant. Note, then, that there is no produce of the soil, whether good or bad, that does not contain in itself some kind of salt; and when the straw, the hay, and other herbs, are putrefied, the waters which pass through them carry away the salt which was in the said straws and other herbs, or hay; and just as you see that a salt haddock, which may have been long in soak, would at last lose all its salstive substance, and at length have no taste at all, in like manner you must believe that the muck-heaps lose their salt when they are washed by the rains.

And forasmuch as you might allege against me, saying that the muck-heap remains a muck-heap, and that being carried to the soil, it might still be of much service, I will give you an example to the contrary. Do you not know well, that those who extract the essences from herbs and spicery, extract the substance of the cinnamon without any destruction to its form? At any rate, you will find, that in the liquor which they will have drawn out of the cinnamon, they will have removed from the said cinnamon its flavour, its smell, and the entire properties of the same; this, notwithstanding the cinnamon will remain in its form, and will have the appearance of cinnamon as before; but if you eat some of it, you will find in it neither smell, nor taste, nor properties. That is an example which should suffice to make you believe what is above.

Question.—If you had preached to me for a space of a hundred years, so it is that you could not make me believe that there is salt in muck-heaps, nor in all kinds of plants, as you wish to make me believe.

Answer.—I will give you, now, some arguments which will make you believe that which you deny, or else it must be that you have the head of an ass upon your shoulders. In the first place, you must confess to me that glass-wort is a herb which grows commonly in the soil of the marshes of Narbonne and Xaintonge. Now, the said herb, being burnt, reduces itself to a stone of salt, which salt the apothecaries and alchemical philosophers call *sal alkali*: in short, it is a salt proceeded from the herb.

Item.—Fern also is a herb, and, being burnt, reduces itself to a stone of salt; witness the glass-workers, who make use of the said salt to make their glasses, with other things

which we will mention when occasion shall present itself in treating of stones.* *Item*, consider a little the cane from which sugar is made: it is a jointed herb, and hollow like a stem of rye, made in the fashion of a reed; this notwithstanding, from the same herb sugar is drawn, which is no other thing than a salt. True it is, that all the salts have not one savour, and one appearance, and one action; at the same time that does not hinder them from being salts; and I venture to tell you afresh, and to maintain daringly, that there is no plant, nor kind of herb upon the earth, which has not in itself some species of salt; and tell you further, that there is no tree, of whatever kind it may be, which does not accordingly contain some of it, some more, some less. And what is more, I venture to say, that if there were in fruits no salt, they would have no savour, property, or odour, nor could we hinder them from putrefying; and that you may not say I am speaking without reason, I instance to you the principal fruit in use amongst us, namely, the fruit of the vine. It is a certain thing, that the lees of wine having been burnt, they reduce themselves into salt, which we call salt of tartar: now, this salt is greatly mordicative and corrosive: when it is put in a damp place, it reduces itself into oil of tartar, and many heal ulcers with the said oil, because it is corrosive. The salt of the herb glass-wort, when it is kept in a damp place, is as oleaginous as that of tartar. Those are reasons which ought to make you believe that there is salt in trees and plants.

Were any one to ask me how many kinds of salt there are, I would reply, that there are as many kinds as there

* The treatise on stones occurs in Palissy's last work, not published until seventeen years after that which includes the present essay.

are diversities of savour. It is, then, to be concluded that the salt of pepper and of grains-of-paradise is more corrosive than that of cinnamon; and the more strong and powerful are wines, the more they abound in salt, which causes the strength and virtue of the said wine.

To show this to be so, contemplate a little the wines of Montpellier: they have an admirable power and strength, such that the husks of their grapes burn, and calcine plates of brass, and reduce them into verdigris; and if any one ventures to say that this is not done by the virtue of the salt that is in the said husks, my statement is easily to be verified, because it is a certain thing, that if one puts common salt or salt-of-tartar in a brass pan, it will become green in less than four-and-twenty hours, provided that the salt be dissolved; and that it does by reason of its tartness. There you have an argument which should suffice to you for the whole; however, to enable you better to understand these things, I will now teach you to extract salt from kinds of trees, herbs, and plants; and so, will make you understand it presently, without putting your own hand to the work. You will readily confess to me, that all ashes are useful in the washing-tub; also you will confess to me, that the same ashes can be of use once only in the said wash. If you confess so much, it is enough; for by that you ought to understand, that the salt which was in the ashes has become dissolved and mingled with the lye, and that has caused the removal of the dirt and ordure from the linen: whence it follows, that the lye is tinctured and oily with the said salt, which is dissolved throughout it; and the lye, having come to its perfection, has removed all the salt which was in the said ashes;

whence it comes, that the ashes remain altered and useless, and the lye, which removed the salt of the said ashes, has always some property of cleansing. If you will not believe these reasons, take a cauldron of lye, and let it boil till all its moisture is evaporated, and then you will find the salt at the bottom of the cauldron.

If the above-said arguments are not sufficient, take notice of the smoke of wood; for it is so that the smokes of all kinds of wood make the eyes smart and injure the sight, and this because of certain salitude which it draws from the wood, when the other humours are exhaled by the vehemence of the fire, which chases the hurtful and humid matters: and that this is so, you will recognise when you cause water to boil in some cauldron; because the smoke from the said water will do no harm whatever to the sight, though you present your eyes over the said smoke. And to prove to you, better still, that there is salt in wood and plants, consider the bark with which the tanners curry their hides. If it is dried and pulverised, it hardens and preserves from putrefaction the skins of oxen and other beasts. Do you think that oak-bark would have virtue to hinder the putrefaction of the said skins, if there were not any salt in the said barks? No, in truth; and if it were so that the bark had this property, it could be used many times; but after it has been used once, the moisture of the skin has caused attraction, and has dissolved the salt which was in the bark, and has taken it and drawn it to itself, to strengthen and harden itself; and so the said bark can no more be used for anything, except to put upon the fire, after it has been used once only.

Another example. I remember to have seen certain stones which were made of burnt straw, which could not be

unless the said stones contain in themselves a great quantity of salt. *Item*, the fire once took a barn full of hay; the fire was so great that the said hay was finally reduced to stone, in the way that I have told you occurs with glass-wort and fern; but, because in the said hay there is less salt than in glass-wort and tartar, the said stones of hay and straw* are not subject to dissolution, therefore endure the injury of time as a piece of iron dross might do. I know, also, that many glass-workers, among those who make the glass for window-panes, use the ash of beech-wood in place of glass-wort; which is as much as to say, that the ash of the said beech is no other thing than salt, for otherwise it could not be of use in this affair.

If I would put into writing all the examples that I could find, there would be need to take up a great deal of time; but in conclusion, I say to you as above, that there are an infinite number of kinds of salt, that is to say, as many different kinds as there are different savours. Copperas and vitriol are only salts, borax is only a salt, and nitre a salt. I tell you, that if there were not salt in all things, they could not sustain themselves, so they would quickly be putrefied and annihilated.

Salt renders firm, and keeps from putrefaction, fat and

* The editors of the works of Palissy, in 1777, frequently append notes of correction to his writings, which, now and then, correct right into wrong, and show that, two hundred years after his own time, Palissy still stood by no means in the rear rank of existing knowledge. At this point the incredulous editors find it necessary to suggest, that Palissy cannot mean to say that he has seen stones made wholly out of straw. Rickburners, in recent years, have enabled not a few collectors to possess stones left after the burning of a hay or corn stack, similar to those which Palissy detected. They are pure flint. Microscopes have revealed to us minute crystals of flint dispersed throughout the substance of grasses and some other plants, as well as animals. These help to cause the great strength of a wheat-stem, and remain, of course, after the burning of a rick.

other flesh; witness the Egyptians, who made great pyramids to keep the bodies of their deceased kings; and to hinder the putrefaction of the said bodies, they powdered them with nitre,—which is a salt, as I have said,—with certain spices, containing in themselves a great quantity of salt; and by such means their bodies were conserved without putrefaction; even to this day, one finds such bodies still in the said pyramids, which have been so well conserved, that the flesh of the said deceased is used in our day as a medicine, which they call Mummy.

I ask you, have you not seen certain labourers who, when they wish to sow a piece of land two years successively, set fire to the stubble or straw remaining from the grain which has been cut; and in the ashes of the said straw will be found the salt which the straw had extracted out of the earth, which salt, remaining in the field, will aid the land again; and so, the straw being burnt in the field, it will serve as manure would, because it will restore the same substance which it had extracted out of the earth. It is time that I made end to this discourse; for, if you will not believe the above-mentioned reasons, it would be great folly to give you other examples; however, because our discourse has been from the first to show you that the rains carry away the salt of the muck-heaps which are left uncovered, I will give you yet farther, to conclude my discourse, one example, which will suffice to you for all. Take notice, at seed-time, and you will see that the labourers will bring their muck-heaps to the fields some time before they sow the land; they will put the said manure in little heaps or piles about the field, and

some time afterwards, they will come to spread it over the whole field; but on the spot where the said pile of manure shall have been resting for some time, they will leave none of the said manure, so they will throw it this way and that; but in the place where the said manure has rested some time, you will observe, that after the corn which has been sown shall have become high, it will be in that place thicker, taller, greener, and more flourishing than in the other parts.

Thence you may know easily, that it is not the muck-heap which has caused that, for the labourer threw it on other parts; but it is that, when the said manure was on the field in little piles, the rains which occurred passed through the said piles of manure into the ground, and in passing, have dissolved and carried with them certain portions of the salt which was in the said manure; just as you see the waters which pass through earths containing saltpetre, carry with them the saltpetre, and after that the waters have passed through the said earths, the said earths can no longer be used to make saltpetre, for the waters which have passed, have carried with them all the salt: so it is with ashes used by the saltpetre makers, and so with those used in the wash-tub, and that is why they are of no use afterwards, which is the point that should make you believe what I have said to you from the beginning—that is to say, that the waters which pass through muck-heaps, carry away all the salt, and render the manure useless; which is an ignorance of very great weight. And if it were corrected, one could not calculate how great the profit would be. I would that every one who shall see this secret, would be careful enough to pay it the attention it deserves.

Question.—Tell me, then, how I could keep my manure from spoiling?

Answer.—If you wish to have the full and complete service of your manure, you must hollow a pit, in some convenient place near to your stables; and this pit having been dug in the shape of a pool, or of a watering pond, it is necessary that you pave with flints, or with stones, or with brick, the said pool or pit; and this having been well plastered with mortar made of lime and sand, you will take your manure to be kept in the said pit, until the time when it will be necessary to take it to the fields. And, in order that the said manure be not spoilt by the rains, nor by the sun, you will make some kind of hut to cover the said manure; and when the seed-time shall arrive, you will carry the said manure into the field, with all its substance, and you will find that the pavement of the pit or receptacle will have preserved all the liquid part of the manure; which otherwise would have been lost, and the earth would have absorbed part of the substance of the said manure. And you ought here to note, that if at the bottom of the pit, or receptacle of the said manure, there be found any clear matter, which shall have descended from the muck-heap, and that the said matter cannot be removed in panniers, it is necessary that you should take vessels which will hold water, as if you were to carry vintage, and then you will carry the said clear matter, let it be urine of beasts, or what you please; I assure you that it is the best of the manure, because containing the most salt; and if you thus will render back to the earth the same thing which had been taken from it by the growth of seeds, the seeds which you put into the ground afterwards, will

take up again the same thing that you will have carried thither.

You see, then, how it is necessary that every one should take pains to learn his art, and why it is requisite that the labourers have some philosophy: or otherwise they only bring the earth to an abortion, and commit murder upon trees. The wrongs which they do daily to the trees, constrain me to speak here of them with warmth.

Question.—You make it appear here as if trees were men, and seem to take great pity upon them: you say that the labourers murder them: that is a proposition which gives me occasion to laugh.

Answer.—That is the disposition of the silly, and of enemies to science; however, I know well what I say, for in passing by the copses I have contemplated many times the way in which the woods are cut, and have seen that woodcutters in these parts, when cutting their underwood, would leave the stock or trunk which remained in the ground all hacked, broken, and bruised, not caring for the trunk, provided that they had the wood which is produced from the said trunk, although they hoped that every five years the trunks would produce as much again. I wonder that the wood does not cry out under so villanous a murder.

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Will you hear a good example? There were two labourers who had rented a new piece of land; and for its enclosure they had made a ditch by equal portion, and upon the border of the said ditch they had planted thorns, on the same day, one and the other; some time after that the thorns were large, and good to make fagots for warming their hearths, they agreed together that it was time to clip their palisade or hedge, in order

that the thorns should produce again a multitude of twigs and branches; that settled and agreed, on the appointed day, one of them took a certain volant tool, which resembles a billhook, but which is hafted to the end of a stick, and so he who had this tool, cut his thorns from a good distance with heavy blows, fearing to prick himself, and, in cutting them, made many breakages among the stems and roots of the said thorns; but his companion, more wise than he, showed that he had some philosophy in his mind, for he took a saw, and—having gloves upon his hand—he sawed all the branches of his thorns with the said saw, in such manner that there was no fracture made; but many laughed at him, though, at the last, the laugh proved to be against them: for the part of the hedge which had been sawn so wisely, was found to reproduce its branches in two years, stouter and larger than those of his companion in five years: that is a testimony which should give you occasion to premeditate, and philosophize upon things before you set about them. It is not, then, without cause, that I told you how much philosophy was needed in the art of agriculture.

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EXPERIENCE OF NATURE.

Question.—Do you think that I believe what you now say, of there being salt in the earth, and even in all kinds?

Answer.—Truly, you have a poor judgment: I have proved to you before, that in all kinds of trees, herbs, and plants, there was salt; and now you are ignorant of its existence in all earths. And whence think you that the trees, herbs, and plants, take their salt, if they do not draw it from the earth? You would find it very strange if I were to tell you that there is salt also in all kinds of stones; but I tell you, further, that there is some in all kinds of metals.

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Item.—The trees which are planted in the valleys cannot bear so great an abundance of fruits as those of the mountains or high grounds; and the reason is, because the trees of the valleys are too damp, on account of the abundance of humour, which causes them to employ their time and strength in producing a great quantity of wood and branches, and they seek the sun and be-

come taller and straighter than those which are on the high lands: also, the said trees of the valleys, in like case, have not so great a quantity of oil in their wood as those of the high lands and mountains. Thus you see, also, why they do not burn so well as those of the high places; and the said trees are not of as long duration. And if you will not believe that there is a salt in fruits, contemplate a little some cherry-tree, apple or plum tree: if you note a year when it has scarcely any fruit, and the season is dry, you will find that fruit to be of an excellent savour; and if there comes a very moist year, and if the said tree have a great quantity of fruit, you will find that the said fruit will be insipid, and of bad savour, and of little worth. And that will happen for two reasons: the first is, because the trunk and branches of the said tree have not enough salt to distribute it abundantly to so large a quantity of fruit; the other, because the year has been rainy, and the rains have carried away part of the salt of the said fruit, as would be the case with a salt fish which might be hung to a branch of the said tree.

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The moisture of the air and rains dissolving the salt which is in a stone, the salt, being thus dissolved and reduced into water, leaves its other parts to which it had been joined, and thence it comes that the said stone returns into the state of earth, and being reduced into earth, it is never idle; for if no grain be given to it, it will labour to produce thorns, thistles, or other kinds of herbs, trees, or plants; or even, when the season shall be suitable, it will return once more into the form of stone.

In order to understand these things well, when you pass near walls which have been crumbled by the ravage of

time, taste upon your tongue some of the dust which falls from the said stones, and you will find that it will contain salt; and certain rocks that have been exposed to the air, though they remain still on their natural spot, are subject to the ravage of time. And you ought to note here, that walls and rocks which are cut into by the ravage of time, are much more so towards the quarter of the south and west than of the north, which is an attestation of my statement, namely, that the moisture causes the salt to dissolve, which was the cause of the tenacity, form, and steadfastness of the stone; and you may even see that common salt being in houses, dissolves of itself in time of rains, which are excited by the said winds of the west and south.

Question.—The opinion which you have now expressed to me is the most lying that I ever heard;* for you say that the stone which has been made but a little while, is liable to dissolve because of the ravage of time: and I know that from the beginning God made heaven and earth, he made also all the stones, and thereafter there have none been made. And even the psalm on which you desire to build your garden, testifies that all things have been made from the commencement of the creation of the world.

* The same seems to have been the decision of the Faculty of Theology at Paris. Sixty-one years after their first publication, the opinions concerning stones maintained by Palissy (in this place and in the three or four next pages) were propounded in a public disputation, by Dr. Etienne de Clave, Jean Bitaud, of Xaintes, and Antoine de Villon, otherwise "the Philosophic Soldier." The Faculty of Theology of Paris (in August, 1624) protested against their doctrine, as unscriptural; the treatises were destroyed, and the authors banished from Paris, with a sentence—fitted to the notion of their moral leprosy—by which they were forbidden to dwell in towns, or enter public places of resort. Palissy published his opinions at a time when bigotry was not less stern—nine years before the Massacre of St. Bartholomew.

Answer.—I never saw a man who had a brain so tough as yours. I know well that it is written in the Book of Genesis, that God created all things in six days, and that he rested on the seventh; but for all that, God did not create these things to leave them idle, therefore each performs its duty according to the commandment it received from God. The stars and planets are not idle; the sea wanders from one place to another, and labours to bring forth profitable things; the earth likewise is never idle; that which decays naturally in her she renews, she forms over again—if not in one shape, she will reproduce it in another. And that is why you have to take manure-heaps to the earth, in order that the earth may receive again the substance which she gave.

Now, you must here note, that just as the exterior of the earth labours to beget something, so the internal part and matrix of the earth labours at production: in some places it begets very useful coal; in other places it conceives and engenders iron, silver, lead, tin, gold, marble, jasper, and all kinds of minerals, and kinds of argillaceous earth; and, in many places, it engenders and produces bitumen, which is a kind of oleaginous gum, burning like resin; and it often happens, that within the matrix of the earth fire will kindle itself by some compression; and when the fire finds some mine of bitumen, or of sulphur, or of coal, the said fire nourishes and supports itself thus under the ground; and it often happens that, after a long space of time, some mountains will become valleys, by an earthquake or great vehemence which the said fire will engender; or, perhaps that the stones, metals, and other minerals which sustained the mass of the mountain, will burn, and consuming in them-

selves by fire, the said mountain may incline and sink little by little: also, other mountains may manifest and elevate themselves, through the increase of the rocks and minerals which grow within them; or, perhaps it will happen that one district of the land will be engulfed or lowered by earthquake, and then that which shall remain will be found mountainous; and so the earth will always find whereon to labour, as well in its interior parts as on its exterior. And forasmuch as concerns your ridicule when I told you that stones grow in the earth, you have no occasion or reason for laughing at me; but those who laugh will declare themselves ignorant before the learned; for it is certain, that if, since the creation of the world, no stones had grown within the earth, it would be difficult to find at this day a horseload of them in a whole kingdom, except in some mountains and deserts, or other places not inhabited; and I will now give you to understand that it is as I have said. Consider a little, how many million pipes of stone are daily spoiled for making lime.

Item.—Consider a little the roads, you will find that an infinite number of stones are reduced to dust by the carriages and horses which pass daily over the said roads.

Item.—Observe a little the labour of masons, when they shall make some building of dressed stone, and you will see that a very large part of the said stone is spoilt, and reduced to dust or into flour, by the said masons. There is not a man in the world, nor a wit so subtle, that could number the great quantity of stones which are daily dissolved and pulverized by the effect of frosts; not counting an infinite number of other accidents, which daily spoil, consume, and reduce stone to earth.

Wherefore I may assuredly conclude, that if stones had not at all been formed, not grown or augmented, since the first Creation written in the book of Genesis, that it would in our day be difficult to find a single one, except, as I have before said, among high mountains and in places desert and uninhabited; and he would be very lumpish in his wit who could not believe thus, if he has regard to the above-named things.

Question.—Give me, then, some reason which may make me understand how stones grow daily among us, and then I will not tease you any more.

Answer.—Above all things which made me to believe and understand that the earth would, in the course of nature, produce stones, has been, because I have many times found stones in which, at whatever part one might have broken them, there were to be found shells, which shells were of a stone still harder than the residue; which has been the reason why I have tormented myself, and combated in my mind for the space of many days, to wonder at and contemplate what might be the means and cause of that. And one day, when I was in the Isle of Xaintonge, on the way from Marepnes to Rochelle, I perceived a trench newly dug, from which they had taken more than a hundred cartloads of stones, which, in whatever part or place one might break them, were found full of shells, I say, so close together, that one could not have put the back of a knife between them without touching them; and from that time I began to bow my head, as I went on upon the road, in order to see nothing which might hinder me from imagining what could be the cause of that; and being in this labour of the mind, I thought thereafter a thing, which I believe still, and assure myself that it is true,

that near to the said trench there had formerly been some habitation, and those who at that time dwelt there, after they had eaten the fish which was in the shell, they threw the said shells into that valley, where was the said trench, and by succession of time the said shells had become dissolved in the earth, and also the earth-slough had become purified, and the salts rotted and reduced into fine earth, like argillaceous earth, and thus that the said shells came to dissolve and liquefy, and the substance and property of the salt of the said shells made attraction of the adjacent earth, and reduced it into stone with itself; however, because the said shells retained more salt in themselves than they gave to the earth, they congealed with a congelation much harder than that of the earth; but one and the other reduced themselves to stone, without the loss of their form by the said shells. You have there the cause which, since that time, has made me to imagine and feed my mind upon many secrets of nature, some of which I will point out to you.

Item.—Another time, I walked along the rocks of this town of Xaintes, and in contemplating their natures, I perceived in a rock certain stones, which were made in the fashion of a ram's horn, not so long nor so crooked, but they were commonly arched and about half a foot long. I was the space of some years before I understood what could be the reason why these stones were formed in such a manner; but it happened, one day, that one named Pierre Guoy, citizen and sheriff of this town of Xaintes, found in his farm one of the said stones, which was half open, and had certain dentations which fitted admirably one into the other; and because the said Guoy knew that I was curious in such things,

he made me a present of the said stone, whereat I was greatly rejoiced, and from that time I understood that the said stone had been formerly a shell of a fish, which fish we see no more. And it is necessary to calculate, and believe that this kind of fish has formerly frequented the sea of Xaintonge, for there is found a great number of the said stones; but the kind of fish is lost, because one has fished for it too often, as also the race of salmon has come to be lost, in some countries, from arms of the sea, because people without cessation seek to take it, on account of its goodness.

I was on one occasion at St. Denis d'Olleron, which is at the end of an island of Xaintonge, where I engaged a score of women and children to come and aid me in seeking, on the sea-rocks, certain shells of which I was in need; and having gone upon a rock which was covered daily with the water of the sea, there was shown to me a great number of an armed fish, which was made in the form of a chestnut-husk, flat below, and with a very little hole, by which it attached itself to the rock, and took nourishment by the said hole. Now, the said fish has no form, but is a liquor like the oyster; however, it fills all its shell. Outside and above his shell is all furnished with hairs, hard and prickly, like those of an urchin.

I was much pleased to have found it; and having taken and carried a dozen of them to my house, I was greatly deceived: for when the inside of the shell was removed, the root of the hair, which held against the shell, rotted in a few days, and the said hair fell off; and after the hair had fallen off, the shell remained quite clean, and in the place of the root of each hair, there was a little

boss, which little bosses are arranged in so beautiful an order, that they render the shell pleasant and admirable. Now, some time afterwards, there was an advocate, a famous man and lover of letters and arts, who, in disputing of some art, showed me two shells quite similar in form to the said urchin-shells, but which were quite massive; and the said advocate, named Babaud, maintained that the said stones had been carved by the hand of some workman, and was quite astonished when I maintained against him that the said stones were natural, and found it very strange that I said that I knew well the reason why they had taken a form like that in the earth; for I had already considered that these were some of those urchin-shells, which, by succession of time, had been liquefied, and finally reduced to stone—that is to say, that the salsitude of the said shell had thus congealed, and reduced into stone, the earth which had entered into the said shell. Now, since that time, I have collected many of the said shells, which have been converted into stones.

That is what ought to make you believe that daily the earth produces stones, and that in many places the earth converts itself into stone by the action of a salt, which is the chief cause of the congelation; as you may know that because the shells contain salt, they attract to themselves that which is proper to convert themselves into stone.

Item.—I have found many of the heart-shells which were converted into stone: at the same time, they were massive, as well as joined, as though the fish had been inside. And what will you say of those who have found bones of men enclosed in stones? and others have

found ancient money; is not that attestation that stones augment in the earth?*

* * * * *

Let us come now to the reason why some stones have so large a number of veins, which are easy of cleavage, and why it is that the veins do not as well descend from on high as run transversely. The reason of that is, because above the mass of stone there is a great thickness of earths: it is most true, that when the stone was made, the water which fell from the rains, passing through the body of the said earth, took with it some kind of salt, and the water having descended to the depth of the spot, where it stopped,—the said water, thus charged with a salt, converted and congealed the earth in which it had stopped into stone; and thus far there was formed a layer or bed of the said stone; and the said stone being hardened, it served, afterwards, as receptacle for the other waters which fell afterwards, and passed through the earths down to the said receptacle; and having again taken some kind of salt in passing through the earths, there was formed another layer or bed, which formed and united itself with the

* Fossil bones of man occur, it is well known, in stones only—as Palissy would say—of modern growth. They have been found in calcareous tufa in Peru, and elsewhere. There is a fossil human skeleton in the British Museum, from Guadeloupe. A tribe of Gallibis, slaughtered by Caribs about 150 years ago, were buried on the shore of that island. The gradual formation of this shore, above the buried bones, into a concretionary limestone, was very rapid, by the percolation of water charged with carbonate of lime, exactly in accordance with the theory of Palissy. Roman coins, embedded in stone, have been taken out of the Thames. In crossing an English river (I remember the fact, and have forgotten the particulars), an army dropped its money-chest into the stream, and, pressed for time, abandoned it. The wood rotted, the iron clasps yielded, in decomposing, one of the glues used by Nature as a stone-maker; and, long afterwards, there was revealed, by accident, a hard rock in that portion of the river-bed, studded throughout with money.

first; and thus, at different times, years, and seasons, many masses of stone have been augmented, and augment daily, in the matrix of the earth.

* * * * *

Consider a little the manner of making saltpetre. They boil the water which has passed over a saltpetrous earth and over the ashes: is it, therefore, to be said that all the water is converted into saltpetre? No. In the same way, all the water which passes through earths, does not convert itself into stone, but a part: and so there are very few places in the earth which are not provided with stone, of one kind or another, for otherwise it would be difficult to find a single fountain.

Question.—I pray you, quit, for the present, your discourse on stones, and give me a little explanation of these springs, since the subject here presents itself.

Answer.—I have already told you that there are very few earths which are not provided below with stones, or mines of metal or of clay; indeed, very often they are provided with all three kinds: whence it follows, that when the waters of the rains fall from the air upon the earth, they are retained on the said rocks, and the said rocks serve as vessel and receptacle for the said waters: for otherwise, the water would descend into the depths or centre of the earth; but being thus retained upon the rocks, they find sometimes joints and veins in the said rocks, and having found an oozing-place, however trifling, be it crack or cleft, or what it may, the said waters will take their course in the direction of the downward slope, provided they can find the smallest outlet: thence it most frequently happens that out of rocks and hilly places escape many beautiful springs; and the more distant the place from which they come,

proceeding from and passing through good soils, the more will the said waters be wholesome and purified, and of good savour. Also, commonly the waters which proceed from the said rocks, contain more salts, and are better to the palate than the others, because they have always some attraction for the salts which are in the said rocks.*

* * * * *

Sometimes I used to seek for flints, wherewith to make enamel and artificial stones: now, after having assembled a great number of the said flints, when I would pound them, I found a quantity of them which were hollow within, where there were certain points like those of a diamond, brilliant, transparent, and very beautiful; then I began to cast about, to know what was the reason of that, and not being able to understand by theory, nor yet by natural philosophy, I was taken with a desire to understand by experiment; and having taken a good quantity of saltpetre, I dissolved it in a cauldron with water, which I made to boil; and being

* A note to the Quarto Edition, in 1777, informs us of an application of Palissy's theory to practice, in the year 1705, the details of which are too picturesque to be omitted. Coulange-la-Vineuse, in Burgundy, was a place in which there was much wine, and little water. The domain of the town having come into the possession of an enterprising man, who wished to supply its natural defect, M. Couplet was invited to consider the case in September, 1705, the dry month of an unusually dry year. M. Couplet had studied the theory of springs, which is briefly stated in the above text, and dwelt upon at length by its originator, in a succeeding work. This theory of springs, being perfectly correct, enabled the shrewd student of Palissy to point out to his employer, not only on what spots to dig, but at what depth he would find water. In three months his prophecies having been fulfilled, the water was brought into the town. The joy exceeded that of the most profitable vintage-time; men, women, and children, ran to drink; and the judge of the town, a blind man, travelled out, incredulous, to wave the waters through his hands, as misers finger gold. Somewhere, I think, Palissy has a statue. This, among other pictures, would look well upon its pedestal.

thus boiled and dissolved, I set it to cool; and the water being cold, I perceived that the saltpetre had become congealed at the extremities of the cauldron, and then I poured the water from the said cauldron, and found that the flakes of saltpetre were formed by quadratures and points, very pleasing. Which being thereafter considered in my mind, I saw that the flints, of which I have spoken to you, were congealed: but those which are found massive, it is sign and evident proof that there was enough matter to fill the cavity; and those which were hollow, it is that there was there a superfluity of water, which had dried off while the congelation formed at the extreme parts, and when the humidity of the middle dried away, the matters proper for the flint remained firm and congealed within it, like little diamond points.* I do not say a thing of which I cannot show you evidence, if you will come into my cabinet, for I will show you some of every kind of stone about which I have spoken.

* * * * *

I will adduce to you another example of the congelation of flints. When I was once at Tours, during the Grands Jours de Paris, which were then at the said Tours, there was there a Grand Vicar of the said Tours,† Abbot of Turpenay, and Master of Requests to the Queen of Navarre—a philosophic man and lover of letters, and of good invention; he showed me, in his

* Under the microscope, common flints appear to have been formed by the deposit of silex in the texture of sponges that lived under an ancient sea. It has been long known that all sponges contain flint, but that all flints are sponges fossilized and loaded with siliceous matter, we have learnt only of late years from Mr. Bowerbank, whose statements on the subject will be found in the *Transactions of the Geological Society*, second series, vol. vi., p. 181, *et seq.*

† Thomas de Gadaigne, of a Florentine family settled in France. He became Cardinal de Farnese, and Archbishop of Tours.

cabinet, many and divers stones; but among all the most wonderful, he showed me a great quantity of white flints, formed in the exact semblance of comfits of different shapes; and the said Abbot made me a present of many, as of a wonderful thing: some days afterwards, he took me to his Abbey of Turpenay; and in passing through a village which is beside the river Loire, he showed me a great cavern, through which one went a good distance under ground, below the rocks; and told me, that in the said cavern there was a rock from which the water fell in small drops, very slowly, and in distilling, it congealed and reduced itself to a mass of white flint; and told me, that they put under the water which distilled, straw, in order that the drops which distilled might congeal upon the said straw, to make comfits of divers fashions; and the said Abbot assured me that the comfit which he had showed me, had been taken from that place, and that it had been made by the abovenamed method: also, several people of the said village attested to me that the thing was so. You may now, therefore, well believe that the water of rains, which pass through earths that are above the rock, brings some kind of salt, which causes the congelation of these stones; which is the proposition which I have constantly maintained to you.

* * * * *

You would find it very strange, if any one told you that there is wood which converts itself into stone—it would vex you much to believe it; however, I believe that it is so, and know well the reason why that is the case. There is a gentleman near Peyrehouade, which is the residence and town of the Viscount d'Orto, five

leagues distant from Bayonne, which gentleman is Seigneur de la Mothe, and is secretary to the King of Navarre*—a man very curious, and a lover of *vertu*: he was once at the court, in company with the late King of Navarre, at which time, there was brought to the said king a piece of wood which was converted into stone, at which many were astonished; and after that the said prince had received the said stone, he commanded somebody among his servants to lock it up for him among his other treasures: then the Seigneur de la Mothe, secretary abovenamed, prayed the said somebody to give him a little morsel, which he did; and the said La Mothe, passing through this town of Xaintes, made me a present of it, knowing in very good truth that I was curious about such things. That you may find hard to believe, but for my part, I know, in truth, that it is so; and since I have inquired whence it was that the wood converted into stone had been brought. It was told me, that there was a certain forest of Fayan, which was a swampy place; from which I concluded, in my mind, that the wood of Fayan contains in itself more salts than any other kind of wood; wherefore it must be believed, that when the said wood is decayed, and its salt is moistened, it reduces the wood which is already decayed into a kind of muck, or earth, and thereafter the salt which is dissolved in the said wood, hardens the decayed humour of the wood, and converts it into stone; which is the same argument that I told you concerning shells: it is, that to become soft and convert into stone, they lose none of their form: in like way, the wood being reduced to stone, keeps still the form

* La Mothe Fénelon, of whom mention was made in the Biography.

of wood, precisely like the shells. And you see, thus, how Nature no sooner suffers destruction by one principle, than she at once resumes work with another; which is that which I have told you throughout, that the earth and other elements are never idle.

* * * * *

As for what I have said, that some stones consume through the humidity of the air, I tell you now, not only stones, but also glass, in which there is a great quantity of salt; and to show that it is so, you will find in the temples of Poitou and Brittany an infinite number of glasses, which are bitten on the outside by the injury of time; and the glass-makers say that the moon has done this, but they will pardon me, for it is the humidity of the rains which has caused some part of the salt of the said glass to dissolve. I tell you again, that salts produce marvellous congelations. The alchemists have perceived something of this, for they vex their minds greatly in search of these prepared salts.

I remember having seen a potter who was breaking calcined lead in a handmill; and when dinner-time was announced to him, he sent his servants on before, and took a handful of common salt, and mixed it with the said lead, which was in a liquid clear as water; and, having mixed it, he gave two or three turns to his mill, in order that his servants should not discover the fine secret which had been taught him, of putting salt into his lead to make the colour finer; but on the return from dinner, there was a very fine joke, for he found that the salt, the lead, and the water, had so thoroughly hardened and congealed by the virtue of the salt, that it was no longer possible to turn the millstones; and the upper and the

lower stones were so well fastened together, that it was difficult to separate them. There is a story which it was my design to tell you, for the purpose of better assuring you that salt has power to congeal both stones and metals.

* * * * *

I wonder very much how people can believe that gold can be of service to restore persons, when it is not dissolved: it is for the same reasons that I have told you, that you cannot find the taste of salt, if it do not, in the first instance, dissolve; and so, also, it is, that one does not find savour in stones which contain salt, wherein the salt is perfectly fixed; how much less will a sick man find taste in gold, if it be not dissolved? Now, so it is, that there is not anything more fixed than gold: you may soak and boil it to your utmost, you will not get it to dissolve. It seems to me, that the nutrition of man is in that his stomach cooks and dissolves the things which it takes by the mouth, and then the substance travels through all parts of the body, and so you have nutrition and restoration; but the stomach of a man, weak and almost dead, how should it be able to dissolve gold, and dismiss it to all parts of the body, seeing that the furnaces, even when forced to a heat more than violent, cannot consume it: the stomach of a man would need to be yet hotter than the furnaces, or I understand nothing in the matter.

True it is, that some philosophers, alchemists, say that they know how to diffuse gold in water by some dissolution: truly, if they can dissolve it, it is potable. Now, let us come to know whether, being potable, it can serve to nutrition. The philosophers say that it is made of sul-

phur and quicksilver; being then dissolved, that will be sulphur and quicksilver, which you will give patients to drink; nothing else can you draw out of it than what has been put in: and at the same time you say, quicksilver is a poison. Will you feed the patient upon poison to restore his health? I cannot understand this matter otherwise; wherefore, I will be silent for the present, and will leave the disputation among those whose opinions are different from mine.

Question.—How can you venture to hold such a discourse against the common opinion of all the doctors? For there has not been one who has not used gold as a restorative.

Answer.—I have not spoken ill to you of the doctors; I should be very sorry to do so, for there are some of them in this town to whom I am greatly attached, and particularly to M. l'Amoureux, who has given me assistance with his worldly goods, and with the labour of his art. At the same time, as if by way of dispute, they should not take it ill of me, if I say what I think about the matter. I know well that many doctors and apothecaries have caused gold to be boiled in the bellies of fat capons, to restore patients, and said that the gold diminished, which they have not succeeded in making me believe. You may boil and fry your utmost, you will not be able to reduce its weight.

If the salt or fat of the pot causes its colour to be found paler on the surface only, that makes nothing against my opinion. If gold could diminish in boiling, the alchemists would have won the prize, and there would not be need of so much labour to dissolve gold; for after they had boiled a great quantity, they could take

the water in which the said gold had been boiled, and having caused the moisture to evaporate, they would find the gold at the bottom of their vessel, of which they could make use according to their purpose.

I ask you, do you know what is the meaning of restorative? does it not mean nutrition, and reparation of nature? Will you think a little upon the effect and nature of things which restore the human body? Consider a little all the things that are good to eat and to refresh, and you will find that as soon as they are upon the tongue, they begin dissolving, for otherwise the tongue could not judge of the flavour of the thing, and the tongue receives no flavour, nor good nor bad taste, from that which is presented to it; you may by that easily judge, that neither can the belly or the stomach receive any savour from that which shall be presented to them.

Consider, also, that there is nothing good for food which in itself is not subject to heat, corrupt, and putrefy: it is a notable argument to sustain my proposition. Now, so it is that gold is liable to no one of these accidents. You may pile as you will dollars together, they will not generate heat, nor putrefy, as things do which are good to eat. What will you say to that? Have you anything that will legitimately contradict my proposition? Perhaps you will say, that we are bound to believe the learned men and ancients who have written these things, a very long while ago: that you must not take heed to my speaking, inasmuch as I am neither Greek nor Latin, and have never even seen the volumes of the doctors. To this I answer, that the ancients were men like the moderns, and that they were quite as liable

to be deceived as we are ; and to know that this is so, regard a little the works of Isidore, of the Lapidary,* and of Dioscorides, and many other ancient authors ; when they speak of rare stones, they say that some have power against devils, and others against sorcerers, and others serve to make a man agreeable, handsome, and victorious in battle ; with more than a thousand other virtues which they attribute to the said stones.

I ask you, is not this a false opinion, and directly opposed to the authorities of Holy Scripture ? If so it is that these doctors, ancient and so excellent, have erred in talking about stones, why is it that you would have me to deny their capability of erring when they talk of gold ? If you say that perhaps gold, being in the body, has power to attract to itself the evil humours, as the loadstone attracts iron, I ask you then, why is it that you separate it into so many parts ? for some eat it in filings, others beaten into leaves, and of a kind extremely slender. Now, if the loadstone were thus pulverised, it would not have that power of attracting iron which it has, being joined into a mass. Wherefore I conclude, that if there be given to me no reason better than those which I have adduced, I must remain unable to believe that gold can restore a sick person, any more than if there were sand in his stomach, and this, inasmuch as it is impossible for any stomach to be able to dissolve it.

* Jean de Mandeville was the author of *Le Lapidaire, contenant la vertu et propriété des Pierres précieuses*, published at Lyons without date.

THE HUGUENOT'S PREFACE.*

TO MONSEIGNEUR
THE MARSHAL DE MONTMORANCY,†

Knight of the Order of the King, Captain of Fifty Lances, Governor
of Paris and of the Isle of France.

MONSEIGNEUR,

Though there are some who would at no time hear mention of the Holy Scriptures, yet so it is that I have found nothing better than to pursue the counsel of God, His edicts, statutes, and ordinances; and in regarding what might be His will, I have found that by His last testament he has commanded his heirs that they should eat bread by the labour of their bodies, and that they should multiply the talents which he had committed to them, in accordance with His testament.

* These four letters constitute the prefatory matter to a book by Bernard Palissy, entitled "*A Trustworthy Receipt, by which all the Men of France may learn how to Multiply and Augment their Treasures.*" This book (though without headings or divisions of any kind, even so much as into paragraphs) contains four Treatises: 1, On Agriculture; 2, On Natural History; 3, The Delectable Garden; 4, The Fortified Town. The volume was first published in the year 1563, soon after the liberation of Palissy from a prison, through the friendship, principally, of the Duke de Montmorenci, constable of France.

† Eldest son of the Duke de Montmorenci.

Which having considered, I have not been willing to hide in the ground those talents which it has pleased Him to allot to me; therefore, to cause them to bring profit and increase, according to his commandment, I have been desirous to produce them before every one, and especially before your lordship, knowing well that by you they would not be despised, though they have, indeed, proceeded out of a poor treasury, being held by a person very abject and of low condition; this notwithstanding, since it has pleased my lord the constable, your father, to do me the honour to employ me in his service, for the building of an admirable rustic grotto of new invention, I have not feared to address to you a portion of the talents which I have received from Him in whom all gifts abound. My lord, the talents which I send you are, in the first place, some good secrets of nature and of agriculture, which I have put into a book, desiring by that means to excite good feeling in all men towards the earth, to make them lovers of virtue and just toil, and especially of the art of agriculture, without which it would be impossible to live. And because I see that the earth is cultivated most frequently by ignorant men, who only cause it to miscarry, I have put several instructions in this book, which are competent to be the means of enabling men to gather more than four million bushels of grain yearly in France, above what is customary, provided that they be content to follow my advice, which I hope that they who are subject to you will do, when they have received the information given in this book.

Item.—Because you are a lord, powerful, magnanimous, and of good judgment, I have thought good to design for you the arrangement of a garden, as beautiful as ever

any was on earth, excepting that of the terrestrial Paradise, which design of a garden I assure myself that you will find to be of good invention.

Item.—In this book is contained the design and arrangement of a fortified town, such that, until now, one has not heard speak of the like. There are in the said book many other fruitful matters, which I will leave to be told to you by those who, in reading, shall remember and make report of them to you. I have not put a picture of the said garden in this book, because there are many who are not worthy to see it, and especially the enemies of virtue and good wit; and also my indigence, and the occupations of my art, have not permitted it. I know that some ignorant men, enemies of virtue, and calumniators, will say that the design of this garden is a dream only, and will, perhaps, compare it to the dream of Polyphile, or will be likely to say that it would cost too much, and that one could not find a place fit for the building of the said garden according to the design. To this I reply, that there will be found more than four thousand noble houses in France, adjacent to which may be found many fit spots for the building of the said garden, according to the tenour of my design. And as for the expense, there are in France many gardens which have cost more than this would cost.

Whenever it may please you to do me the honour to employ me in this affair, I will not fail to provide you quickly with a picture, and even will put the plan into execution, if you should feel inclined to have this done. And forasmuch as concerns the plan and arrangement of the fortified town, I know that some will say that no notice should be paid to my speaking, inasmuch as I have

not been exercised in the military profession, and as it is impossible to understand the making of these things, without having first seen a number of batteries and assaults of towns. To this I reply, that the work which I have begun for my lord the constable gives witness enough of the gift which God has given me, to close their mouths; for if they inquire into it, they will find that such a work has not before been seen.

Item.—Having made more ample inquiry, they will find that no man has taught me to understand the details of the above-named work. If, then, it has pleased God to distribute to me of his gifts as an artist in earth, who will deny that He has also sufficient power to communicate to me a portion of understanding in the military art, which is acquired rather by nature, or natural sense, than by practice? The fortification of a town chiefly consists in tracings and lines, according to geometry; and it is well known that, thanks to God, I am not at all ignorant of those things. I have assumed the boldness to propose to you these arguments, in order to obviate the detraction of some who might persuade you, by saying that the thing is impossible. At any rate, I submit myself to receive shameful death, if I do not make apparent the truth to be as I say, whenever and wherever it may please you to employ me in this business.

If these things are not written with so much dexterity as is due to your greatness, you will be pleased to pardon me; and this it is my hope that you will do, seeing that I am not Greek, nor Hebrew, nor poet, nor rhetorician, but a simple artisan, poorly enough trained in letters: this notwithstanding, for such reasons, the thing in itself has not less value than if it had been

uttered by a man more eloquent. I had rather speak truth in my rustic tongue, than lie in rhetoric. Therefore, my lord, I hope that you will receive this small work with as ready a will as I have a desire that it shall give you pleasure. And, in this place, I will pray the Lord God, monseigneur, to give you, in perfect health, good and long life.

Your very affectionate and very humble servant,

BERNARD PALISSY.

From Xaintes.

TO MY VERY DEAR AND HONOURED LADY, MADAME
THE QUEEN-MOTHER.

MADAME,

Some time after that, by your means and favour at the request of my lord the constable, I was delivered from the hands of my cruel enemies, I entered into a debate within my mind upon the fact of the ingratitude of men, knowing well that the cause for which they would have delivered me to death, was no other than because I had sought after their good, even the greatest good that ever could accrue to them. Which being considered, I retired within myself, to search the secrets of my heart, and to enter into my conscience, that I might know whether there was in myself any ingratitude like that of those who had delivered me to the peril of death. It came to me, then, to remember the good which it pleased you to do me, when by your favour you engaged the authority of the king for my deliverance. Which seeing, I found that it would be in me a great ingratitude if I were not regardful of such boon. Nevertheless, my indigence has not permitted

that I should transport myself into your own presence to thank you for such boon, which is the smallest recompense that I could make. And although God has given me several inventions with which I could do you service, nevertheless I have not had means to explain them to you, which has caused me to bring into the light, in recompense of this, several secrets contained in this book, whose tendency is to increase the wealth and virtue of all the inhabitants of the kingdom.

My littleness has not dared to take the liberty of dedicating my work to the king, knowing well that some would say that I had done this for the sake of being recompensed: if it had been so, it would have been no new thing. Madame, there never was a time when good inventions received their reward from kings; nevertheless, I have hope that this work will be more useful to the king than to any other person. At the same time, because of my littleness, I have dedicated it to Monseigneur de Montmorancy, good and faithful servant of the king, which I hope he has found means to make very well understood by his sovereign prince and king. There are things written in this book which will be able to assist much in the building of your garden of Chenonceaux; and if it shall please you to command me to do you service therein, I shall not fail to employ myself about it. And if you should feel inclination to do this, I will do things that no other man has done up to the present day. Which is the place, Madame, where I will pray the Lord God to give you, in perfect health, long and happy life.

Your very humble and very affectionate servant,

BERNARD PALISSY.

TO MONSEIGNEUR THE DUKE DE MONTMORANCY, PEER
AND CONSTABLE OF FRANCE.

MONSEIGNEUR,

I think that you may find it ill in me, that I did not thank you at the time when you were pleased to engage the queen-mother to draw me out of the hands of my mortal and capital enemies. You know that the occupation of my time upon your work, together with my indigence, have not permitted it. I doubt whether you would have found it good, if I had quitted your work to bring you large thanks. Jesus Christ has left a counsel to us, written in Saint Matthew, chap. 7, by which he forbids us to scatter pearls before the swine, lest, turning upon us, they rend us. If I had obeyed this counsel, I should not have been in suffering, to pray to you for my deliverance; assuring you, in truth, that those who hate me have had none occasion against me, except in that I have urged upon them, many times, certain passages of Holy Writ, in which it is written, that he is unhappy and accursed, who drinks the milk and wears the wool of the sheep, without providing for it pasture. And by as much as that ought to have incited them to love me, they have therein made for themselves occasion to desire that I should be committed to destruction as a malefactor; and it is a true thing, that if I had depended on the judges of this town, they would have caused me to be put to death, before I should have been able to obtain from you any assistance. And the occasion which moved some judges to be one body, and one soul, and one single will, with the dean and chapter, my prosecutors, was because some of the said judges were companions of the said dean and

chapter, and possess some morsel of benefice, which they fear to lose, because the labourers begin to murmur in paying the tithes to those who receive without deserving them.

I should have taken good heed not to fall into their sanguinary hands, had it not been that I hoped they would have regard for your work, and for their duty to monseigneur the Duke de Montpensier, who gave me a safeguard, forbidding them to take cognisance of, or undertake anything against me, or against my house; well knowing that no man could bring your work to a completion but myself. Also, being a prisoner in their hands, the Seigneur de Burie, the Seigneur de Jarnac, and the Seigneur de Ponts, took great trouble to cause me to be delivered, with the design that your work might be completed. Seeing which, those who hated me, sent me at night by by-roads to Bourdeaux, without having regard either to your highness or to your work: a thing that I thought very strange, seeing that Monsieur the Count de la Rochefoucault, although, at the time, he took part with your adversaries, yet, nevertheless, he showed so much honour to your highness, that he would never permit any violent entry to be made into my workshop, because of your work. But the above mentioned of this town acted not thus; but, on the contrary, directly I was made a prisoner, they broke into and made a public place of part of my workshop, and had resolved, in their town-hall, to pull my workshop down, of which a part had been erected at your expense; and would have executed such a resolution, had there not been the Seigneur and Dame de Ponts, who prayed the above mentioned not to fulfil their design.

I have written to you all these things, in order that you might not be of opinion that I had been imprisoned as a thief or murderer. I know how well you will be able to remember these things in the fitting time and place, and how much more your work will cost you for the wrong that has been done towards you in my person: at the same time, I hope that, following the counsel of God, you will return them good for evil, which is my desire; and, on my part, and according to my power, I will endeavour to be regardful of the good which it has pleased you to do to me. Which is the place where I will pray the Lord God, monseigneur, to give you, in perfect health, long and happy life.

Your very humble and affectionate servant,

BERNARD PALISSY.

TO THE READER—SALUTATION.

FRIEND READER,

Since it has pleased God that this writing should be fallen now into your hands, I pray you be not so indolent or rash as to content yourself with the reading of the beginning, or a part thereof; but, in order to carry away from it some fruit, take pains to read the whole, without having regard to the littleness and abject condition of the author, nor yet to his language, rustic and ill adorned, assuring yourself that you will find nothing in this writing which is not of profit to you, more or less; and the things which, at the beginning, will seem to you impossible, you will find them at last true and easy to be believed. Above all things, I pray you to call to mind a passage which is in the Holy Scripture, there where St. Paul says, that each one according as he

has received gifts, should distribute thereof to others. Following which, I pray you to instruct the labourers, who are unlettered, that they may be made able carefully to study in natural philosophy, according to my counsel; and, especially, let that secret and precept which concerns manure-heaps, that I have put into this book, be divulged and made manifest to them; and that also, so long as may be needed, till they hold it in as high esteem as the thing merits. Since so it is, that no man could estimate how great the profit in France would be, if on this subject they would accept my counsel. There is in certain parts of Gascony, and some other regions of France, a kind of earth called marl, with which the labourers manure their fields, and say that it is of more value than dung. Also they say, that when a field has been manured with the said earth, it will suffice for ten years.

If I see that my writings are not despised, and that they are put in execution, I shall take pains to seek for the said marl in this region of Xaintonge, and will make *a third book*,* by which I will teach all people to know the said marl, and even the method of applying it to fields, according to the way of those who are accustomed to its use. I know that they who hate me, will not approve my work, nor will the malicious and ignorant, for they are enemies to every virtue. But to be justified against their calumnies, envies, and detractions, I will call to witness all the most cultivated minds of France, philosophers and men who live well, full of

* In his last publication (which is his third book, but only the second to which Palissy attached his name) there is an essay which fulfils this pledge.

virtue and good manners, who, I know, will hold my work in their esteem, though it be written in a language rustic and ill polished; and if they meet with a fault, they will know very well how to allow for the condition of the author.

I know that some ignorant men will say, that it would need the power of a king to make a garden according to the design that I have put in this book; but to this I reply, that the expense would not be so great as some might think. And also, it must be understood, that just as in a book of medicine there are divers remedies as there are divers maladies, and each man takes according to his need, according to the diversity of complaint, so, in like case, out of the design for my garden individuals might draw according to the bearings and conveniences of the spots which they inhabit. I know, also, that many will laugh at the design of the fortified town, which I have put into this book, and will say that it is reverie; but to this I reply, that if there be any lord knight of the orders, or other captains, so far curious to know the truth of it, and meaning to be neither slaves nor subjects to the power of their money, but to use it for the contentment of their minds, let them part with a little of it to obtain understanding by picture and model of the truth of the thing. I know that they will find strange that I have not put into this book the picture of the said garden, nor yet of the fortified town; but to this I reply, that my indigence and the occupation of my art would not permit it.

I have also found so much ingratitude in many persons, that this has caused me to restrain myself from too great liberality; at the same time, the desire I have toward

the public good will incite me some day to take an opportunity of making the picture of the said garden, according to the tenour and design written in this book. But I would like to beg of the nobility of France, that after I shall have occupied my time to do them service, it will please them not to return me evil for good, as the Roman ecclesiastics of this town have done, who have desired to get me hung, for having sought on their behalf the greatest good that could accrue to them, which is, for having wished to incite them to feed their flocks, following God's commandment. And no man can say that ever I have done them any wrong; but because I urged upon them their perdition, according to the eighteenth of the Apocalypse, seeking thus to amend them; and because many times, also, I had shown to them a text, written in the Prophet Jeremiah, where he says: "Woe unto you, pastors, who drink the milk and wear the wool, and leave my sheep scattered upon the mountains! I will demand them again of your hands;" they seeing such a thing, instead of amending, hardened themselves, and banded themselves together against the light, in order to walk the remainder of their days in darkness, following the luxuries and carnal desires to which they were accustomed.

I never should have thought that, for that cause, they would have wished to take occasion to put me to death. God is my witness, that for the evil they have done to me, they have had no other occasion than the above named. This notwithstanding, I pray to God that He will better them. Which will be the place where I will pray each one who shall see this book, to make himself a friend of agriculture, according to my first

discourse, which is a just toil, and worthy to be prized and honoured ; also, as I have above said, that the simple may be instructed by the wise, in order that we may none of us be rebuked at the last day for having hidden talents in the earth, inasmuch as we know that they by whom they shall have thus been hidden, will be banished from the eternal kingdom, from before the face of Him who lives and reigns eternally, world without end. Amen.



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